University of Alberta

The relation between perfectionism, hassles, coping, perceived social support, and psychological difficulties in university professors

By

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INTRODUCTION

Many people tend to equate professional success with happiness and a sense of achievement (Feather, 1978). In fact, our society, at times, can seem to glorify long hours of hard work as opposed to promoting a balance between work, relaxation, and relationships. Such an emphasis on work and achievement can heighten perfectionism which inevitably increases vulnerability to stress and other health difficulties (Brown & Beck, 2002; Hewitt & Flett, 1993; Hewitt, Flett, & Ediger, 1996). Perfectionism is generally viewed as the striving for flawlessness, and the need to be perfect in all aspects of life (Flett & Hewitt, 2002). Perfectionistic ideals are promoted in many professional fields without a sufficient recognition of the personal consequences associated with these standards. Teaching, for example, has been recognized in the research literature as being highly associated with stress and its negative health consequences (Iverson, Olekalns, & Erwin, 1998; Norton, 1998).

The teaching profession is associated with many deleterious conditions that lead to high absenteeism, burnout, and depression (Fisher, 1996). These conditions are even more apparent in universities, where professors endure an additional stressor, namely, research related activities, which is considered to be more stressful than either teaching or service tasks (Blix, Cruise, Mitchell, & Blix, 1994). The work of an academic involves a high degree of attention to detail and precision in the execution of intellectual tasks that will need to bear very close scrutiny. Only one study has examined perfectionism and occupational stress in teachers, and it was found that perfectionism was associated with various indices of teacher stress, including the intensity and frequency of professional distress, and emotional and

physiological manifestations (Flett, Hewitt, & Hallet, 1995). No study has examined perfectionism in university professors. Clearly, perfectionism and its association with psychological distress among university professors merits greater attention than it has received.

The link between perfectionism and psychopathology has been studied extensively over the past two decades (Flett & Hewitt, 2002). Shafran and Mansell (2001) recently conducted a review of the major studies that have examined this relationship between perfectionism and psychopathology. They found perfectionism was associated with numerous disorders and mental health concerns including: depression, hopelessness, lack of control, low self-esteem, suicide and suicidal ideation, anorexia nervosa, bulimia nervosa, social anxiety, social phobia, obsessive-compulsive disorder, anxiety, personality disorders, somatic symptoms, and deteriorated physical health.

However, this established relationship has been thought to be intensified by other mechanisms operating concurrently (Dunkley & Blankstein, 2000; Dunkley, Blankstein, Halstall, Williams, & Winkworth, 2000; Dunkley, Zuroff, & Blankstein, 2003). For instance, different types of coping strategies employed by perfectionists have been speculated to either facilitate or minimize psychological distress for these individuals. Specifically, avoidant coping has been associated with an increase in distress, whereas problem-focused coping has been found to promote a decrease in psychological distress (Dunkley et al., 2000). Another important variable thought to increase a perfectionists' level of psychological distress was the number of hassles they incurred (Hewitt & Flett, 1993). It has been suggested that for perfectionists,

hassles may contribute to a "vulnerability" or susceptibility to increased psychological difficulties.

Lastly, the insulating effect of perceived social support has long been viewed as instrumental in decreasing distress (Pierce, Lakey, Sarason, Sarason, & Joseph, 1997). Perceived social support has, more recently, been implicated as a healthy or negative mediator in the perfectionism-psychological distress link (Dunkley et al., 2000). Thus, recent research suggests that numerous factors are associated with the detrimental effects of perfectionism on mental health.

The present study will examine the relationship between perfectionism and psychological difficulties in a sample of university professors as well as attempt to determine the roles played by hassles, avoidant coping, problem-focused coping, and perceived social support in this relationship. The main hypothesis of this study was that perfectionism and psychological difficulties would be strongly associated in this sample. Furthermore, it was expected that hassles and avoidant coping would play an important part in facilitating the strength of the relationship between perfectionism and psychopathology. As well, it was also anticipated that perceived social support and problem-focused coping would decrease the association in the perfectionism-psychopathology link.

The literature review has been organized in the following way. First, some background information describing the measurement and terminology surrounding perfectionism as a psychological construct is provided. Second, the literature that has established perfectionism as a personality trait that is potentially harmful to psychological health is outlined. Third, the research on the links between coping

strategies, hassles, and perceived social support in the perfectionism-psychological difficulties relationship is described. This is followed by a description of the structural equation models used to explore the mediating and moderating relationships between these variables and psychological difficulties. The fifth section explains how perfectionism and psychological distress may be directly related to difficulties in the occupational role of a university professor. The final section details the goals of the present study and a summary of the main hypotheses.

LITERATURE REVIEW

Perfectionism

Perfectionism, as popularly understood, has long been recognized as having associations with disturbances at work, self-condemnation, and "the tyranny of the shoulds" (Horney, 1950, p. 65) but only recently has it been systematically researched. As commonly defined by the layperson, perfectionism refers to a tendency in different domains to set very high standards and to be scrupulously hard on oneself in meeting these demands. Over the past two decades, researchers have devoted considerable effort to better understanding this construct. Among the pioneers, Hamachek (1978) described it as an important psychological phenomenon, but one that often eluded mental health professionals. His most notable contribution to the perfectionism literature was his attempt to distinguish between two types of perfectionism - the normal and the neurotic. According to Hamachek, normal perfectionists are those who derive pleasure from doing well at something considered difficult. In contrast, neurotic perfectionists are individuals who feel unable to experience pleasure as a result of their activities and achievements because they "never seem good enough."

Burns (1980) stated that perfectionism was actually part of a network of cognitions that included expectations, interpretations of events, and evaluations of oneself and others. Thus, people with perfectionism were described as setting unrealistically high standards, rigidly adhering to them, and defining their self-worth in terms of achieving these standards. In these early studies, perfectionism was generally thought to possess one or possibly two (in the case of Hamachek, 1978)

dimensions that focused on cognitive factors, such as irrational beliefs (Ellis, 1962) or dysfunctional attitudes (Burns, 1980; Weissman & Beck, 1978). However, more recently, perfectionism has been examined as a personality construct that is composed of several dimensions. In fact, Flett and Hewitt (2002) provided a strong argument that investigating perfectionism from a multidimensional perspective was one of the most significant developments in this field of study. An emerging consensus about the definition and measurement of perfectionism has encouraged advances in research, theory, and treatment considerations. This consensus has been expressed in the development of two widely-used and similar measures of perfectionism.

Measures of Perfectionism

Presently, there are two measures of perfectionism that are broadly accepted in the field. They share the same name (Multidimensional Perfectionism Scale, MPS) and they both approach perfectionism from a multidimensional stance (Frost, Marten, Lahart, & Rosenblate, 1990; Hewitt & Flett, 1990, 1991). These measures originated from the perspective that perfectionism is a complex concept that can engender both "positive achievement strivings" and "maladaptive evaluation concerns" (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993). These two scales have been widely used in the research literature connecting perfectionism to a broad range of psychopathologies, tendencies, and issues (Flett & Hewitt, 2002; Shafran & Mansell, 2001).

Hewitt and Flett (1990) suggest that perfectionism is composed of three separate dimensions: Self-Oriented, Socially Prescribed, and Other-Oriented. In the Hewitt and Flett MPS, the Self-Oriented scale reflects a tendency to set excessively high

standards for oneself, and a tendency to focus on failures or flaws in performance. The Socially Prescribed Perfectionism dimension refers to the beliefs that an individual has about the extremely high standards others are believed to be imposing upon them, and the conviction that others will be disappointed if these standards are not met (Hewitt & Flett, 1991). The final dimension, Other-Oriented Perfectionism, reflects the tendency of individuals to set unrealistic expectations for others, and to consequently evaluate them harshly for not achieving these standards.

Frost et al. (1990) developed a six-factor measure to assess the various dimensions of perfectionism. The major dimension in this conceptualization is Concern over Mistakes (Frost et al., 1993). Concern over Mistakes reflects an exaggerated negative response to mistakes, one which equates them with failure. Another key factor, Doubts about Actions, is defined by the doubt one has about the quality of their own performance. Frost's MPS has two dimensions that relate to parental influence. These are considered to be important variables in the development of perfectionism. Parental Expectations concerns an individual's perception of his or her parents as having very high expectations for them while the Parental Criticism dimension, involves the perception of one's parents as being excessively critical. The next dimension, Personal Standards, is defined by setting very high standards and evaluating oneself based on these high standards. The sixth factor, Organization, reflects an overemphasis on the importance of order and organization. With regards to this last factor, Frost et al. (1990) suggested dropping the Organization factor from the total perfectionism score since it has a relatively low correlation with the other five factors, and therefore, does not appear to reflect the core perfectionism construct.

Dropping this factor in the analyses of the Total Perfectionism score has become a common practice for those using the Frost MPS (e.g., Adkins & Parker, 1996; Chang, 2002; Frost et al., 1990; Frost, Lahart, & Rosenblate, 1991; Frost et al., 1993).

Although Frost et al. (1990) initially only used females in their normative sample, other researchers have since evaluated the psychometric properties of the Frost MPS and found that it was a psychometrically sound instrument for studying the construct of perfectionism with both males and females (Parker & Adkins, 1995; Parker & Stumpf, 1995), in younger and older adults (Chang, 2000), black and white females (Chang, Watkins, & Banks, 2004), French and Swedish samples (Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, 1995; Saboonchi & Lundh, 1997), and even in a large Chinese sample (Cheng, Chong, & Wong, 1999). In addition, the Frost MPS scores and their association with self-esteem and depression have been shown to be moderately stable over a 10-week period (Rice & Dellwo, 2001).

A comparison of these two measures of perfectionism demonstrated considerable overlap between Hewitt and Flett's MPS and Frost's MPS (FMPS) suggesting that their respective "dimensions" and "factors" were measuring the same construct (Frost et al., 1993). Specifically, the Personal Standards scale from the FMPS is most closely associated with Hewitt and Flett's Self-Oriented Perfectionism scale. Similarly, the Concern over Mistakes, Parental Criticism, and Parental Expectations scales were independently correlated with Hewitt and Flett's Socially Prescribed Perfectionism scale. The Total Perfectionism score on the FMPS closely reflects Hewitt and Flett's Self-Oriented and Socially Prescribed scales together. The striking similarity between these measures of perfectionism has allowed researchers

and consumers to draw related conclusions when comparing results from either of these instruments. In summary, Hewitt and Flett's MPS and Frost's MPS agree that perfectionism is intimately related to self-doubt and concerns about making and being criticized for mistakes. However, it should also be mentioned that there are substantive differences in developmental perspectives which underlie these scales. Parker and Adkins (1995) observed that Hewitt and Flett MPS has a stronger interpersonal emphasis, whereas the Frost MPS has a strong intrapersonal focus. The interpersonal importance for the Hewitt and Flett MPS stems from the social world and its external pressures which can greatly influence the etiology of people's perfectionistic traits. However, in Frost's developmental perspective of his MPS, there is greater emphasis placed on the parental demands and expectations established in childhood that have since been internalized.

Perfectionism and Psychopathology

Depression

Perfectionism has long been regarded as a predisposing factor for depression from both cognitive and psychoanalytic perspectives (Adler, 1956; Beck, 1967). Recently, there has been a significant increase in the number of studies that have focused on the relationship between perfectionism and depression (e.g., Blatt, 1995; Blatt, Zuroff, Bondi, Sanislow, & Pilkonis, 1998; Cox & Enns, 2003; Enns & Cox, 1999; 2002; Zuroff et al., 2000). Perfectionism has not only been implicated as one of the causes of depression (Cox & Enns, 2003; Enns, Cox, & Clara, 2002; Hewitt, Flett, Ediger, Norton, & Flynn, 1998) but also in maintaining its intensity (Blatt et al., 1998, Zuroff et al., 2000). Furthermore, a series of studies have indicated that mere

frequent "perfectionism thoughts" account for unique variance in depression and anxiety in excess of the variance predicted by negative automatic thoughts and perfectionism traits (Flett, Hewitt, Blankstein, & Gray, 1998).

Frost and his colleagues found early in the development of the FMPS that perfectionism had a strong relationship with depression (Frost et al., 1990). In their study of female college undergraduates they found that the depression scales on both the Brief Symptom Inventory (BSI; Derogatis & Melisaratos, 1983) and the Depressive Experiences Questionnaire (DEQ, Blatt, D'Afflitti, & Quinlan, 1976) were significantly correlated with the Total Perfectionism score, and the Concern over Mistakes (CM) and Doubts about Actions (D) subscales of the FMPS. The Total Perfectionism score and these two subscales have consistently yielded positive associations with depression in numerous studies and with a variety of different samples.

Lynd-Stevenson and Hearne (1999) found that, of the subscales of the FMPS, CM and D subscales had the highest significant correlations with depression on the Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995). Furthermore, regression analyses confirmed these same two subscales as significant predictors of depression; however, an unexpected finding in this study was the discovery that the Organizational (O) subscale of the FMPS also had a significant relationship with depression, albeit in the opposite direction. Similarly, Cheng and his colleagues (1999) found in a large sample (n = 947) of Chinese adolescents that CM, D, and O significantly accounted for most of the variance on depressive symptoms as measured by the DASS. Again, the Organizational subscale had a significant, yet

negative association with depression. These two studies support the findings of Frost and his colleagues (1990) that the Organizational subscale is measuring something other than perfectionism.

Chang (2002) examined the predictive ability of perfectionism and social problem solving skills to account for variance in both depression and suicidal thoughts. He found that the total FMPS score was a significant predictor of depression, uniquely accounting for 14% of the variance on the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) as well as uniquely predicting 13% of the variance on the measure of suicidal ideation, the Adult Suicide Ideation Questionnaire (ASIQ; Reynolds, 1991). It should be noted that the link between perfectionism and suicide had been well established in prior research (Adkins & Parker, 1996). In addition, Chang (2002) confirmed that perfectionism and social problem solving, one of the adaptive components in combating depression, were significantly negatively related to each other. In another study, Total Perfectionism on the FMPS was also found to significantly predict depression on the DASS in a sample of Australian university students (Schweiter & Hamilton, 2002). In this same sample, the only subscale to significantly provide unique variability in depression scores was the Doubts about Actions subscale. In sum, a long line of research has shown that perfectionism predicts depression in a diverse array of samples.

Some recent studies on perfectionism and depression have employed more sophisticated statistical techniques such as structural equation modeling in order to assess the role of possible mediating and moderating variables (Frazier, Tix, &

Barron, 2004) and to provide increased control for measurement error while yielding direct tests of the theory. Perfectionism has still been found to be a significant predictor of depression when the effects of other contributing variables are taken into account. For example, a study by Rice, Ashby, and Slaney (1998) replicated and extended findings of other researchers interested in the adaptive and maladaptive elements of perfectionism (e.g., Frost et al., 1993; Slaney, Ashby, & Trippi, 1995). They found that maladaptive perfectionism comprised of four FMPS subscales (Parental Criticism, Parental Expectations, Concern over Mistakes, and Doubts about Actions) and three subscales of the Almost Perfect Scale (APS; Slaney & Johnson, 1992) were significantly associated with low self-esteem and higher levels of depression. However, self-esteem did not mediate the perfectionism-depression association. Therefore, perfectionism had a direct effect on both self-esteem and depression independently.

Another study that used structural equation modeling examined perfectionism in relation to its' developmental origins and to the vulnerability trait of proneness toward depression in a large sample of college students (Enns Cox, & Clara, 2002). In their study, correlational evidence indicated a significant positive relationship between two subscales from the FMPS (Concern over Mistakes and Doubts about Actions) and two measures of depression, the Beck Depression Inventory (BDI) and the Depression Proneness Rating Scale (DPRS; Zemore, Fischer, Garratt, & Miller, 1990). In addition, they found that not only did Concern over Mistakes and Doubts about Actions contribute uniquely to variance in developmental origins and

depression proneness, but these two subscales of perfectionism also mediated the relationship between harsh parenting and depression proneness.

Anxiety, Panic Disorder, and Phobias

Recently, Albert Ellis (2002) suggested that many perfectionists can be categorized by high levels of anxiety sensitivity because they believe that they must be perfectly free from anxiety, and it is this belief that causes uncomfortable physical symptoms and increased anxiety. Many studies have indeed linked perfectionism to anxiety and related symptoms such as panic disorder and phobias (e.g., Iketani et al., 2002; Saboonchi, Lundh, & Ost, 1999).

Frost et al. (1990) found that the anxiety subscale from the Brief Symptom Inventory (BSI) was significantly correlated with Total Perfectionism as well as the Doubts about Actions and Concern over Mistakes subscales, and that phobic anxiety from the BSI was significantly correlated with Doubts about Actions. In a clinical sample of individuals with social phobia, Lundh and Ost (1996) found that individuals high in social anxiety were elevated on four of the FMPS subscales: Concern over Mistakes, Doubts about Actions, Parental Expectations, and Parental Criticism, however they did not differ from the control group on Personal Standards or Organization. Saboonchi and Lundh (1997) explored the relationship between various measures of anxiety, public self-consciousness, and perfectionism in a sample of Swedish university students. Using a Swedish version of the Frost MPS and the Hewitt and Flett MPS they found that Frost's Concern over Mistakes and Doubts about Actions subscales and Hewitt and Flett's Socially Prescribed Perfectionism dimension were all significantly correlated with numerous anxiety measures (i.e.,

social anxiety, social interaction anxiety, social phobia, agoraphobia fears). In addition, the authors found that this pattern of correlations between aspects of perfectionism and anxiety remained when public self-consciousness was controlled for. Therefore, the relationship between perfectionism and anxiety appears to be largely independent of the degree of public self-consciousness.

In a similar study, Saboonchi, Lundh, and Ost (1999) compared 52 social phobic patients, 55 patients diagnosed with panic disorder and agoraphobia, and 113 control subjects on perfectionism and self-consciousness. Although both patient groups and the control group were significantly elevated on the Concern over Mistakes, Doubts about Actions, Parental Criticism, Public Self-consciousness, and Social Anxiety subscales there were differences between the patient groups and the normal controls. Specifically, individuals diagnosed with social phobias scored higher than the normal controls on three dimensions of perfectionism i.e., Concern over Mistakes (CM), Doubts about Actions (D), and Parental Criticism (PC). As well, the individuals with panic disorder scored higher than the controls on the CM and D. However, individuals with social phobias scored higher than individuals with a diagnosis of panic disorder with agoraphobia on the CM and D subscales. This discrepancy is consistent with other findings (e.g., Antony, Purdon, Huta, & Swinson, 1998). In addition, some of the correlations between social anxiety and Concern over Mistakes and Doubts about Actions in the two patient groups remained significant when public self-consciousness was controlled, thus lending support to the findings of Saboonchi and Lundh (1997) from a non-clinical sample. Furthermore, Iketani et al (2002) found that individuals diagnosed with both panic disorder and agoraphobia

scored significantly higher than individuals with panic disorder without agoraphobia and normal controls on CM, PS, PC, and total FMPS scores. Thus, the authors suggest that perfectionistic beliefs and tendencies may be involved in the development and maintenance of agoraphobia for individuals diagnosed with panic disorder.

Numerous other empirical studies have found a relationship between perfectionism and forms of anxiety. In non-clinical samples, perfectionism has been found to be related to trait anxiety and anxiety sensitivity (Flett & Hewitt, 2004; Flett, Hewitt, Endler, & Tassone, 1995), while other studies have found similar relationships among psychiatric patients (Antony et al., 1998). Furthermore, perfectionism has been studied with more specific forms of anxiety and panic disorder (e.g., Antony et al., 1998; Blankstein, Flett, Hewitt, Eng, 1993; Frost & Steketee, 1997). However, none of these studies attempted to control for the influence of depression which often accompanies anxiety (Gilbert, 2001).

Only three studies have attempted to determine the extent to which perfectionism is related to anxiety independent of depression. Juster et al. (1996) studied a sample of 61 patients diagnosed with social phobia. They found that the statistically significant relationship between trait anxiety as measured by the Trait form of the State-Trait Anxiety Inventory (STAI-T; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) and both Concern over Mistakes and Doubts about Actions remained, even when depression was controlled. Similarly, Kawamura, Hunt, Frost, and DiBartolo (2001) demonstrated that the Concern over Mistakes, Doubts about Actions, Parental Expectations, and Parental Criticism subscales of the FMPS

significantly contributed to the prediction of the social/trait/worry factor of anxiety after depression was controlled. Also, the relationship between the Personal Standards subscale of perfectionism and the Post-Traumatic Stress Disorder factor was still significant after controlling for depression. It is noteworthy however, that the relationship between the Obsessive-Compulsive Disorder factor and perfectionism did not remain significant after depression was controlled. In contrast, Minarik and Ahrens (1996) found that in a sample of 56 college students, Concern over Mistakes, Doubts about Actions, and Personal Standards significantly correlated with scores on the Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988), but when depression (as measured by the Beck Depression Inventory) was controlled these relationships no longer remained. Therefore, although there was some evidence that some forms of anxiety were independent of depression, a more inclusive approach might highlight the shared variance between these two forms of psychopathology in perfectionism research.

Obsessive-Compulsive Disorder

Perfectionism has been closely linked to Obsessive-Compulsive Disorder (OCD) since the writings of Janet in the early 1900s (Janet, 1903; as cited in Pitman, 1987). Similarly, past authors have theorized that some of the assumptions involved in a diagnosis of OCD, were in fact, elements of perfectionism (Guidano & Liotti, 1983; McFall & Wollersheim, 1979). More recently, the Obsessive Compulsive Cognitions Working Group (1997) listed perfectionism as one of the six belief domains important in the development and maintenance of OCD. Indeed, few other forms of psychopathology bear more similarities to the underlying construct of

perfectionism than OCD. The Diagnostic and Statistical Manual of Mental Disorders - Fourth Edition - Text Revision (DSM-IV-TR) describes persons with OCD as having "excessive" or "unreasonable" obsessions such as repeatedly doubting themselves or compulsions that include requesting or demanding assurances and repeating actions (American Psychiatric Association, 2000). Therefore, it is not surprising that many empirical studies have attempted to understand how perfectionism relates to OCD.

Frost and his associates (1990) found significant correlations between the FMPS subscales and scores on two widely used measures of obsessive-compulsive experiences, the Maudsley Obsessive Compulsive Inventory (MOCI; Rachman & Hodgson, 1980), and the Everyday Checking Behavior Scale (ECBS; Sher, Frost, & Otto, 1983). In particular, the Total Perfectionism score, and the Concern over Mistakes and Doubts about Actions subscales were most closely related to OCD symptoms. Also, Frost, Steketee, Cohn, and Griess (1994) found that perfectionism was associated with higher levels of OCD symptoms among non-clinical individuals. In addition, several samples of sub-clinical participants (as determined by three commonly used measures of OCD) scored significantly higher than non-compulsive individuals on Total Perfectionism scores, CM, PS, and D dimensions. Other studies have reported similar findings. For example, in a sample of French university students, Rhéaume and his colleagues (1995) found that Total Perfectionism on the FMPS, CM, and D were significantly correlated with obsessive-compulsive symptoms. More importantly, multiple regression analyses demonstrated that perfectionism explained a significant part of the variance of obsessive-compulsive

symptoms after responsibility, an important component in OCD (Rhéaume, Ladouceur, Freeston, & Letarte, 1995), was controlled. Similar findings were reported by Frost and Steketee (1997) for patients diagnosed with OCD. Individuals with OCD had significantly higher scores on Total Perfectionism, Concern over Mistakes, and Doubts about Actions compared to non-patient controls. Furthermore, OCD patients were compared to patients with panic disorder and it was found that they did not differ on Total Perfectionism or Concern over Mistakes. However, scores on the Doubts about Actions dimension were significantly higher for OCD patients compared to those with panic disorder. Coles, Frost, Heimberg, and Rhéaume (2003) also found that the association between perfectionism and features of OCD could be distinguished from other forms of anxiety (e.g., social anxiety, trait anxiety, or worry). They used a measure that gave examples of experiences intended to produce uncomfortable sensations (i.e., "not just right experiences") and the need to ritualize until these sensations diminish. Taken together, these two studies suggest that obsessive-compulsive symptoms are distinct from other forms of anxiety in the measurement of perfectionism (Frost & Dibartolo, 2002).

Eating Disorders

Eating disorders are characterized by severe disturbances in eating behavior, and generally denote anorexia nervosa and bulimia nervosa (American Psychiatric Association, 2000). According to the DSM-IV-TR, anorexia nervosa is characterized by a refusal to maintain a minimally healthy body weight. Bulimia nervosa is characterized by repeated episodes of binge eating followed by inappropriate behaviors to compensate for the excessive eating such as self-induced vomiting and

laxatives. Strober (1980) found that people suffering from eating disorders displayed certain behavioral characteristics, such as rigidity, meticulousness, and perfectionism. As such, understanding the relationship between perfectionism and eating disorders may provide important considerations for treatment and relapse prevention (Goldner, Cockell, & Srikameswaran, 2002).

Srinivasagam et al. (1995) compared 20 women who had recovered from anorexia nervosa to 16 healthy women. They discovered that recovered anorexic women had significantly higher scores than the healthy women on measures of perfectionism and obsessive-compulsive tendencies, with specific concerns about symmetry and exactness. Similarly, Bastiani, Rao, Weltzin, and Kaye (1995) found statistically significant differences between women with a diagnosis of anorexia (two groups; those currently underweight and those recovered) and the control group on both the Hewitt and Flett MPS and the Frost MPS measures. Lilenfeld et al. (2000) compared: 1) women with current bulimia nervosa, 2) women recovered from bulimia, 3) female relatives of a woman with bulimia, and 4) healthy (no history of eating disorders) women. Compared to healthy controls, currently ill and recovered women with bulimia had significantly elevated scores on Total Perfectionism, Personal Standards, Concerns over Mistakes, Parental Criticism, and Doubts about Actions on the FMPS. Parental Expectations was significantly higher only among the women with current bulimia nervosa compared to healthy controls. As well, first-degree female relatives of women with bulimia were significantly higher on Total Perfectionism and the Concern over Mistakes and Parental Criticism subscales compared to healthy controls. These results are similar to both the findings of

Srinivasagam et al. (1995) and Bastiani et al. (1995). In summary, empirical studies have consistently found elevated levels of perfectionism in clinical samples of women with eating disorders.

Physical Complaints

Mental health issues have long been recognized as playing a role in physical discomfort (e.g., Frese, 1985; Frese & Semmer, 1986; Wahlstedt & Edling, 1997). Nevertheless, few studies have focused on the association between perfectionism and physical complaints. Most of the studies that have investigated this relationship have demonstrated that perfectionism played a deleterious role in physical health.

Frost and associates (1990) found that the Somatization scale (a measure of vague physical symptoms) on the Brief Symptom Inventory was significantly correlated with higher Total Perfectionism and Doubts about Actions. Other studies have explored the relationship between perfectionism and specific physical complaints. For example, in a large study of female nurses, Magnusson, Nias, and White (1996) found that the Doubts about Actions subscale of the FMPS was strongly associated with mental fatigue. This finding suggested that people who had difficulty making decisions were more prone to psychological exhaustion. Interestingly, physical fatigue tended to be reported by those perceiving high Parental Expectations. Surawy, Hackmann, Hawton, and Sharpe (1995) outlined clinical features common to the majority of more than 100 patients meeting the criteria for a diagnosis of Chronic Fatigue Syndrome (CFS). They reported "both patients and their families typically revealed a pre-morbid personality characterized by a marked achievement orientation, perfectionism, and high standards for work performance,

responsibility and personal conduct" (Surawy et al., 1995, p. 537). The authors suggested that the lifestyles of people suffering from CFS revolved around trying to meet both their own high standards and the expectations of others. In addition, Wood and Wessely (1999) found no significant differences on any of the subscales of the FMPS for patients with CFS compared to patients with rheumatoid arthritis. This suggests that perfectionism may exacerbate on-going physical complaints for individuals with CFS and rheumatoid arthritis.

Further evidence for the link between perfectionism and on-going physical ailments was provided by Lundh, Broman, Hetta, and Saboonchi (1994). Lundh and his colleagues (1994) examined the relationship between perfectionism and insomnia among a random sample of 383 normal Swedish adults compared to 70 adults with persistent insomnia. Using only three subscales from the FMPS (D, CM, and PS) as their measure of perfectionism, they found that people with insomnia were significantly higher than normal adults (i.e., no sleep problems) on all three subscales, but especially on Personal Standards and Concern over Mistakes.

Vincent and Walker (2000) reported a similar association between perfectionism and chronic insomnia. Adults with insomnia scored significantly higher than those without any sleeping problems on the Doubts about Actions, Parental Criticism, and Concern over Mistakes dimensions of the Frost MPS as well as higher on the Socially Prescribed dimension of the Hewitt and Flett MPS. The authors suggested that people with insomnia doubt their own actions, feel frequently criticized by others deemed as important, and frequently worry about making mistakes which may cause excessive arousal during the evening and lead to difficulty

falling asleep at night. Overall, the research on physical complaints and perfectionism indicates that perfectionistic tendencies can increase the discomfort experienced in a wide range of physical ailments.

The Effect of Perfectionists' Coping, Hassles, and Perceived Social Support on Psychopathology

Perfectionism and Coping

Personality and coping have been closely linked to the production and maintenance of psychological distress (Hewitt & Flett, 1996; Snyder & Ford, 1987). Several models have been put forth in order to better understand the relationship between coping and personality. These models include: 1) a mediation model, 2) an additive model, and 3) an interactive model. Most research involving personality variables, coping strategies or styles, and various forms of maladjustment seems to support the mediation approach (e.g., Hewitt & Flett, 1996; Vollrath, Banholzer, Caviezel, Fischli, & Jungo, 1994). For example, a study by Carver et al. (1993) demonstrated that avoidant coping styles (e.g., denial and disengagement) mediated the negative association between optimism and increased distress in a longitudinal study of 59 breast cancer patients.

A similar relationship has been demonstrated between perfectionism, coping, and distress in a sample of university students. Using the Hewitt and Flett MPS, the Coping Inventory (COPE; Carver, Scheier, & Weintraub, 1989), and two measures of distress, O'Connor and O'Connor (2003) found that perfectionism (Other-Oriented and Socially Prescribed dimensions) significantly predicted distress when avoidant coping moderated the relationship. This suggested that perfectionistic people who

used avoidant coping (rather than problem-focused or emotion-focused) were more likely to experience distress. On the other hand, Rice and Lapsley (2001) used the Frost MPS as their measure of perfectionism, the COPE, and the Personal-Emotional Adjustment (PEA) subscale of the Student Adaptation to College Questionnaire (Baker & Siryk, 1984) to measure emotional adjustment and found no support for the view that coping is a mediator or moderator of the perfectionism-emotional adjustment association. This finding, however, is in contrast with several other perfectionism studies that examined the mediating role of maladaptive coping in predicting distress (e.g., Dunkley & Blankstein, 2000; Dunkley, Blankstein, Halsall, Williams, & Winkworth, 2000; Dunkley, Zuroff, & Blankstein, 2003; O'Connor & O'Connor, 2003) which suggests that the PEA subscale may not have been an effective measure of distress. Overall, there seems to be abundant evidence to suggest that coping is an important variable in the association between perfectionism and psychological distress.

Perfectionism and Hassles

A surprising finding in several empirical studies is that minor life events (i.e., hassles) are generally better predictors of psychological distress than major life events (e.g., DeLongis, Folkman, & Lazarus, 1988; Johnson & Bornstein, 1991; Kanner, Coyne, Schaefer, & Lazarus, 1981). Furthermore, there is evidence that daily hassles have moderate stability over time (Headey & Wearing, 1989; Kanner et al., 1981) and that individuals with certain personality traits are more likely to experience adverse effects from hassles (Kohn, Lafreniere, & Gurevich, 1991). For example, Vollrath (2000) studied a sample of 119 university students over a three year period to

investigate the concurrent relations between the five factors of personality (Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness) and daily hassles. Just as in other studies (see Headey & Wearing, 1989; Kanner et al., 1981), Vollrath found that daily hassles were relatively stable over the three year period. In addition, structural equation modeling showed that Neuroticism and Conscientiousness were the only personality factors to predict hassles over time. Interestingly, recent studies have found that these two personality factors (Neuroticism and Conscientiousness) are closely linked to perfectionism (Enns, Cox, Sareen, & Freeman, 2001; Stumpf & Parker, 2000). These findings suggest that there may be an enduring relationship between perfectionism and hassles.

A similar conclusion was reached by Hewitt and Flett (1993) who studied the relationship between perfectionism, hassles, and depression among 51 individuals diagnosed with major depressive disorder. Using the Hewitt and Flett MPS measure of perfectionism, the Hassles Scale (Delongis, Folkman, & Lazarus, 1988) and the Beck Depression Inventory, they found that Self-Oriented perfectionism was associated with higher levels of depression when achievement hassles (e.g., exercise, work load) were elevated. Thus, the authors suggest that hassles may be an important mediating variable in predicting the severity of depression in Self-Oriented perfectionists.

Perfectionism and Perceived Social Support

The adaptive nature of social support in combating all kinds of psychological difficulties has been endorsed for many years by the research community (Caplan,

1974; Cobb, 1976; Holahan, Moos, & Bonin, 1997; Kessler, Price, & Wortman, 1985). Therefore, it is not surprising that a perceived lack of social support has been associated with many forms of psychological distress (Fyrand, Wichstrom, Moum, Glennas, & Kvien, 1997; Manning & Fusilier, 1999; Russell, Booth, Reed, & Laughlin, 1997). Thus, this finding seems to be relevant to the psychological well-being of many individuals with perfectionistic traits.

One tremendously important form of social support is the family (Ross & Mirowsky, 2002). Several studies have provided evidence suggesting that perfectionism develops more readily in those families with overly critical parents (Flett, Hewitt, & Singer, 1995; Frost, Lahart, & Rosenblate, 1991; Rice, Ashby, & Preusser, 1996). More recently, Kawamura, Frost, and Harmatz (2002) also examined the relationship between parenting styles and perfectionism in a sample of Caucasian and Asian American university students. They found that harsh and authoritarian parenting styles were related to negative reactions to mistakes (Concern over Mistakes) and decreased confidence in the student's ability to complete tasks (Doubts about Actions) as measured by their grade point average (GPA). Criticism from the participants' parents (i.e., lack of support) was significantly related to course work performance. Although remarkably little research has been done in this area, these studies suggest that the amount of perceived social support can be influenced by perfectionistic traits.

Mediating and Moderating Variables using Structural Equation Modeling

The advent of more complex statistical programs has allowed perfectionism researchers to better understand the relationship between perfectionism, coping

strategies, hassles, perceived social support, and psychological distress. Dunkley, Blankstein, Halsall, Williams, and Winkworth (2000) examined adaptive and maladaptive forms of perfectionism and their association with coping, hassles, perceived social support, and distress using structural equation modeling (SEM) in a sample of university students. Dunkley et al. (2000) used SEM to test the mediation and moderation effects of active coping, avoidant coping, hassles, and perceived social support using Evaluative Concerns (maladaptive) and Personal Standards (adaptive) perfectionism to predict distress (i.e., depression and anxiety) in the models. The model that produced the best fit found that hassles, avoidant coping, and perceived social support were all unique mediators that fully explained the association between evaluative concerns perfectionism (maladaptive) and distress. Moreover, the model did not support a direct effect of evaluative concerns perfectionism on distress, further evidence of the mediation of these three variables. It should be noted that, although perceived social support was a mediator between maladaptive perfectionism and distress, its relationship was a negative one unlike the other two variables (i.e., hassles and avoidant coping) which had a positive relation. In addition, hassles and perceived social support also moderated the relation between both Personal Standards and Evaluative Concerns perfectionism and distress. As well, support was found for the mediating role of hassles between adaptive perfectionism (Personal Standards perfectionism) and distress, but not for coping or perceived social support. Lastly, Personal Standards perfectionism was significantly associated with the active coping strategy.

In a similar study of university students, Dunkley and Blankstein (2000) used SEM to determine whether self-critical perfectionism (i.e., Socially Prescribed perfectionism, the Depressive Experiences Questionnaire, and the Sociotropy-Autonomy Scale by Clark & Beck, 1991) and its relation to distress (i.e., current depression, anger, and psychosomatic distress) and hassles was mediated by coping (emotion-focused, active, and avoidant). The results suggested that the effect of self-critical perfectionism on hassles and distress was mediated through maladaptive coping (i.e., avoidant and emotion-focused). Furthermore, the model suggested that self-critical perfectionism and hassles did not have an effect on distress after controlling for the effect of coping on distress. Overall, the study garnered strong support for the mediating role of coping in the perfectionism-distress link.

Expanding on the study by Dunkley et al. (2000), Dunkley, Zuroff, and Blankstein (2003) proposed a multilevel structural model relating self-critical perfection, personal standards perfectionism, hassles, event stress, avoidant coping, perceived social support, problem-focused coping (i.e., active coping), positive reinterpretation and growth coping, negative affect (i.e., distress), and positive affect. The final model supports the findings of Dunkley et al. (2000). Specifically, hassles and avoidant coping fully mediated the relation between self-critical perfectionism and negative affect. In contrast, low perceived social support mediated the negative relationship between self-critical perfectionism and positive affect. However, there were two main differences between the results from this study and those of Dunkley et al. (2000). First, no relation was found between Personal Standards perfectionism and problem-focused coping (i.e., active coping). This finding is especially puzzling

since not only did Dunkley et al. (2000) find Personal Standards perfectionism and active coping to be related, but this relationship has been established in other studies (e.g., Dunkley & Blankstein, 2000; Flett, Russo, & Hewitt, 1994). Second, perceived social support was related to positive affect but was not uniquely related to negative affect. However, the authors suggest that this discrepancy may be due to the differences in "distress" measures, negative affect versus depressive symptoms and anhedonic depression in Dunkley et al. (2000).

In summary, a series of studies have found that there are several variables that are directly or indirectly associated with perfectionism's effect on psychological distress. These studies have demonstrated that the effect of hassles, avoidant and problem-focused coping, and perceived social support need to be taken into account, in order to more clearly understand the long-established relationship between perfectionism and psychological difficulties.

University Professors, Psychological Distress, and Perfectionism

Being a university professor was traditionally regarded as a highly desirable occupation with low levels of stress (Fisher, 1994). Many of the benefits of this profession were thought to lie in the great number of unusual features of employment rather than in a high salary comparable to professions in the commercial sector. Academics were envied for the exceptional flexibility in the hours and tasks they performed. For instance, many professors can pursue areas of self-interest while carrying out the research component of the position. Furthermore, they enjoy the job security that comes with tenure, and are able (and paid) to travel overseas for work related studies and/or conferences. However, over the past two or three decades many

of the benefits have been dwindling leaving a growing discontent in its' wake (Fisher, 1994). Comparative salaries for academics have fallen in countries such as the United States, Britain, and Australia (Fisher, 1994). In addition, increasing numbers of academic positions are now untenured, workloads have increased, significant reductions in government funding of public universities place academics under increasing pressure to attract external funds, and the old 'publish or perish' motto has become a reality (Fisher, 1994; Snell & Mekies, 2001).

Reports have appeared in the research literature of psychological distress among university professors in various countries. These studies emanate from such places as the United States (Blix, Cruise, Mitchell, & Blix, 1994; Gmelch, Lovrich, & Wilke, 1984; Gmelch, Wilke, & Lovrich, 1986; Richard & Krieshok, 1989), Great Britain (Abouserie, 1996; Bradley & Eachus, 1995; Daniels & Guppy, 1992; Wilkinson & Joseph, 1995), Australia (Dua, 1994; Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Winefield & Jarret, 2001), New Zealand (Boyd & Wylie, 1994), Hong Kong (Leung, Siu, & Spector, 2000), and Canada and Pakistan (Jamal, 1999). The general conclusion to be drawn from these studies is that the psychological distress associated with university teaching is cause for concern, and is largely the result of increased work pressures intermingled with personality factors in university professors.

The psychological distress suffered by professors has manifested itself in various ways in these studies. Fisher (1994) reports on a study of 85 academic staff that completed the Middlesex Hospital Questionnaire (Crown & Crisp, 1966) used to assess levels of psychoneurotic symptoms. The results indicated that professors ranked higher in anxiety, depression, and obsessionality scores than the general

population. Another way in which psychological distress has presented itself has been in the form of professional burnout. For instance, a large study at an American university found that professors (assistant, associate, and full professors) experienced significantly higher burnout levels than the national average for professional occupations (Wageman, 2000). Some specific predictors of burnout in university faculty have been role conflict, role ambiguity, and participation in decision making (Pretorius, 1994).

Gmelch and his colleagues (Gmelch et al.1984; 1986) conducted a national survey of 80 universities in the United States. The respondents included 1,221 assistant, associate, and full professors. Factor analysis of a 45-item scale, the Faculty Stress Index, created by Gmelch and his associates, yielded 5 factors that related to stress: 1) reward and recognition (55% common variance), 2) time constraints (12% common variance), 3) departmental influence (7% common variance), 4) professional identity (6% common variance), and 5) student interaction (6% common variance). The major factor related to stress, reward and recognition, spans the three main functions of a university professor: teaching, research, and service. Gmelch et al. (1986) suggested that the strength of this factor was the result of the extreme ambiguity in the role and performance of a professor as well as the lack of recognition for time commitments and accomplishments. In particular, the researchers cited "inadequate rewards, unclear expectations, and insufficient recognition being highlighted" (Gmelch et al., 1986, p. 272) as the most influential components in a professor's stress level. The emergence of this factor as the primary dimension of stress among faculty has been anticipated by Kahn, Wolfe, Quinn, and Snoek (1964)

who studied role conflict and ambiguity and established that stress is due to a mismatch between individuals, their expectations for their role, and the perceived reality of the role.

The influence that recognition and role ambiguity (i.e., perceived organizational practices) had on psychological distress among university professors was also reported by Leung, Siu, and Spector (2000). They found that the recognition and perceived organizational practices factors accounted for the most variance in faculty stress. In contrast to Gmelch and his colleagues' findings (Gmelch et al. 1984; 1986), recognition was the best predictor of job satisfaction. However, consistent with Gmelch et al. (1984), the role ambiguity factor (perceived organizational practices) was the best predictor of psychological distress. Hind and Doyle (1996) also confirmed the same five factors reported by Gmelch et al. (1984). Additionally, except for a few minor differences, they reported similar results on the most serious sources of stress in academia. For instance, "excessively high self expectations," "excessively heavy workload," and "job demands interfere with personal life" were rated among the most serious sources of stress in both the Gmelch et al. (1984) and Hind and Doyle (1996) studies. Similarly, Boyd and Wylie (1994) reported the level of one's workload and excessive demands as the top two sources of serious stress from a sample of more than 500 academic staff. The consistency between the findings of these studies suggests that the psychological health of university professors may be closely associated with excessive demands imposed by both themselves and the nature of the profession, as well as the evaluative ambiguity within their job description. In fact, role ambiguity, uncertainty about what constitutes excellence in

academic work, and ambiguity about how faculty members are evaluated have all exacerbated the distress (Gmelch, 1984; Seldin, 1987).

A university professor operates within a professional environment that is in flux, which in turn, makes the role more ambiguous and less prescribed when compared to other occupations. In addition, the research literature in this area suggests that much of the distress endured by professors is related to the tendency to set high standards, employ overly critical self-evaluations, and/or doubt their decisions because of the inherent ambiguity in their occupational roles. These same tendencies have been described in the research literature with increasing frequency over the past two decades, and have since become known as elements of a perfectionistic personality trait (Flett & Hewitt, 2002). Although numerous researchers have established that university professors who set high standards, experience role ambiguity, and are very critical of their accomplishments, in fact experience the most psychological distress, no study to date has furthered knowledge in this area by connecting these findings to the perfectionism literature. Consequently, there is a need for a more in-depth look at the role perfectionism plays in the psychological difficulties experienced by university professors.

Summary of Goals and Main Hypotheses

One of the central tasks of a university professor is to educate young adults so that they are able to function effectively in society. University professors play an essential social role and their continued well-being is of serious concern. The present study sought to determine the extent to which variables such as coping strategies,

perceived social support, and hassles related to perfectionism and psychological distress in male and female university professors.

The first goal of this study was to assess the overall level of psychological difficulties in university professors. Consistent with other recent studies of university professors (Gillespie, Walsh, Winefield, Dua, & Stough, 2001; Winefield, 2000), it was expected that their overall level of psychological distress would be relatively high. A related goal of this research was to examine whether the gender of professors was related to the level of psychological difficulties experienced. Previous research findings suggest that gender differences in psychological distress exist. Blix, Cruise, Mitchell, and Blix (1994) reported that female university teachers exhibited higher levels of occupational stress on several indices. This finding is commensurate with many studies that found female university professors were significantly more stressed than men (Boyd & Wylie, 1994; Gmelch, Wilkie, & Lovrich, 1986; Hogan, Carlson, & Dua, 2002). This stress is significant given that numerous authors have put forth diathesis-stress models which argue that psychological vulnerabilities among perfectionists are often activated by stress, resulting in such maladies as depression, hopelessness, and suicidal ideation (e.g., Hewitt & Flett, 2002; Hewitt, Flett, & Endler, 1995; O'Connor & O'Connor, 2003; O'Connor, O'Connor, White, & Bundred, 2000).

The third goal of this study was to examine the extent to which the various dimensions of perfectionism were associated with psychological difficulties in this sample. Numerous studies have found the Concern over Mistakes and Doubts about Actions subscales were most closely related to several psychiatric symptoms (e.g.,

Adkins & Parker, 1996; Coles, Frost, Heimberg, & Rhéaume, 2003; Frost et al., 1990; Frost & Henderson, 1991; Juster et al., 1996; Lynd-Stevenson & Hearne, 1999; Rhéaume, Freeston, Dugas, Letarte, & Ladouceur, 1995). Thus, it was expected that Concern over Mistakes (CM) and Doubts about Actions (D) would be more closely associated with psychological difficulties in university professors because of the high degree of occupational stress found in their often ambiguous roles (Winefield, 2000).

The final goal of this research focused on whether perfectionism was a unique predictor of psychopathology or whether other variables (i.e., avoidant and problem-focused coping, hassles, and perceived social support) mediated this relationship. Therefore, these variables were examined to determine their interactive effects on the relationship between perfectionism and psychological distress.

Hypotheses

The following hypotheses were examined in the present study:

1. That female university professors would report higher levels of psychological difficulties compared to their male counterparts.
2. That Concern over Mistakes and Doubts about Actions would be the dimensions of perfectionism most closely linked to psychological difficulties in professors.
3. That professors high in hassles and avoidant coping would be high in psychological difficulties.
4. That professors high in problem-focused coping and perceived social support would be low in psychological difficulties.

5. That perfectionism would be a strong predictor of psychological difficulties, but that this predictive power would be significantly reduced once the effects of hassles, avoidant and problem-focused coping, and perceived social support were taken into account. This would suggest that these variables are mediating the relationship between perfectionism and psychological difficulties.

METHODS

Participants

A list of all professors (i.e., assistant professors, associate professors, and professors) at a large western Canadian university was obtained from the university telephone directory, identifying 1664 potential participants (1197 males and 467 females). Using a random stratified sample, names of 400 males and 400 females were generated from a random numbers table to serve as potential participants for the present study.

A response rate of 47.6% (381 respondents) was attained consisting of 199 males and 168 females (the remaining 14 participants did not complete the demographic section of the questionnaire). Age ranges for female respondents were from 28 to 64 years ($M = 47.10$, $SD = 8.11$) and male respondents' ages ranged from 26 to 65 years of age ($M = 49.02$, $SD = 9.03$). The work experience level of these university professors ranged from 1 to 38 years ($M = 14.33$, $SD = 9.45$). Other demographic information revealed a marriage rate of 71.7%, with the remaining professors being either divorced (10.6%), single (11.2%), or involved in a long-term relationship (e.g., common-law) (6.5%). Finally, the ethnicity of participating professors was predominately Caucasian (89.0%) and Asian/East Indian (9.4%). Smaller percentages of university professors listed their ethnicity as Aboriginal (0.6%), Black/African Canadian (0.3%), and Hispanic (0.8%).

Procedure

A mail out survey package was sent to the university addresses of all potential participants selected for the present study. The package contained: the Frost

Multidimensional Perfectionism Scale (Frost, Marten, Lahart, & Rosenblate, 1990), subscales from the COPE Inventory (Carver, Scheier, & Weintraub, 1989), Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), selected items from the Hassles Scale (Kanner, Coyne, Schaefer, & Lazarus, 1981), Symptom Assessment-45 Questionnaire (Maruish, 2000), a three question job appraisal survey adapted from a study by Kyriacou and Sutcliffe (1979), and a demographic sheet. One week prior to mail out, a pre-notification email was sent to all 800 randomly selected prospective participants containing a clear statement of the details of the research. The mail out survey package and a self addressed envelope was sent to all 800 participants at the beginning of the fall semester 2003. Four weeks after the original mail out survey package, a follow-up email was sent to all of the professors reminding them to complete and return the questionnaire. Returning the questionnaire package constituted consent to participate in the study, and anonymity was assured by sending identical packages and emails. In addition, participants were asked not to provide their name, instead they were told that only researcher assigned numbers would be used to identify individual responses. Estimated completion time of the questionnaire package was between 20-30 minutes.

Measures

COPE Inventory

The COPE Inventory (Carver, Scheier, & Weintraub, 1989) was used to measure both problem-focused and avoidant coping. The COPE Inventory is conceived as a fine-grained dispositional measure of individual differences in coping, and it reflects a balanced view of the dispositional versus situational issues

(Schwarzer & Schwarzer, 1996). The COPE is a 60-item inventory which measures a wide range of dispositional coping strategies. Respondents were asked to indicate the extent to which each of the strategies was used by answering questions on a 4-point scale (1 = "I usually don't do this at all" to 4 = "I usually do this a lot") that relate to coping with stressors during day-to-day life. Carver et al. (1989) performed a second-order factor analysis, identifying four factors that represented active coping, seeking social support and emotion, denial and disengagement, and acceptance and reinterpretation. Two of these groups of dispositional coping strategies from the COPE were used: one group that indicated problem-focused coping (i.e., Active Coping, Planning, Suppression of Competing Activities) and another group that reflected avoidant coping (i.e., Denial, Behavioral Disengagement, and Mental Disengagement). These scales of the COPE have moderate internal consistencies that ranged from .62 to .80 with only the Mental Disengagement scale having a low reliability (.45). In the present study, the Cronbach's alpha coefficients were .78 (Active Coping), .86 (Planning), .81 (Suppression of Competing Activities), .83 (Denial), .81 (Behavioral Disengagement), and .65 (Mental Disengagement) for the subscales. As a factor, the problem-focused coping (i.e., Active Coping, Planning, and Suppression of Competing Activities subscales) alpha was .86 and avoidant coping (i.e., Denial, Behavioral Disengagement, and Mental Disengagement subscales) was .81.

Carver and his colleagues (1989) reported convergent and discriminant validity for the COPE scales based on predicted relations with other instruments (e.g., State-Trait Anxiety Inventory, Life Orientation Test, Marlowe-Crowne Social

Desirability Scale) and several conceptually related personality qualities. For example, active coping and planning were positively associated with optimism, self-esteem, hardiness, and Type A personality. As well, they found that the COPE scales were (with very few exceptions) not strongly correlated to one another indicating their ability to discriminate dispositional coping. Clark, Bormann, Cropanzano, and James (1995) examined the convergent validity of three coping measures and found that The Coping Strategy Indicator (Amirkhan, 1990), the Ways of Coping-Revised (Folkman & Lazarus, 1985) and the COPE all contained factors which tapped similar constructs showing high levels of congruence ranging from .68 to .97.

Multidimensional Scale of Perceived Social Support (MSPSS)

The Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet, Dahlem, Zimet, and Farley (1988) is a 12-item instrument designed to measure perceived social support from three sources: family, friends, and a significant other. The MSPSS was used to assess the extent to which respondents perceived social support from each of these three sources. The three groups each contains four items scored on a 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). Internal consistency (Cronbach's coefficient alpha) reported by Zimet and his colleagues (1988) for the Significant Other, Family, and Friends subscales were .91, .87, and .85, respectively. The reliability of the total scale was .88. Slightly higher alphas were found in the present study with .95, .92, and .94 for Significant Other, Family, and Friends subscales, respectively. The total scale yielded an alpha of .93. Zimel et al. (1988) reported that construct validity was demonstrated through negative relationships with depression and anxiety. Dahlem,

Zimet, and Walker (1991) reported a nonsignificant relationship between scores on the MSPSS and social desirability, further supporting the validity of the measure. In fact, the reliability, validity, and factor structure of the MSPSS have been demonstrated across a number of different samples including university students (Dahlem, Zimet, & Walker, 1991; Kazarian & McCabe, 1991), rural Italian adults (Prezza & Pacilli, 2002), pregnant women (Zimet, Powell, Farley, Werkman, & Berkoff, 1990), adolescents (Zimel et al., 1990; Canty-Mitchell & Zimet, 2000), and psychiatric outpatients (Cecil, Stanley, Carrion, & Swann, 1995).

Hassles Scale

The Hassles Scale is composed of 117-items that allow for the measurement of the perceived severity (frequency _ intensity) of ongoing daily stressors that occurred in the last month (i.e., work, health, family, friends, the environment, and chance occurrences) – intensity being assessed on a 3-point scale (Kanner, Coyne, Schaefer, & Lazarus, 1981). The frequency score is calculated according to the number of hassles endorsed by the respondent without regard to intensity, whereas the intensity scores pertain to the extent to which respondents were bothered or upset by the hassles endorsed. Higher scores indicate greater perceived daily stress. The expenditure of time necessary to complete the full hassles questionnaire was thought to be a possible time impediment negatively influencing the response rate, therefore items that seemed redundant or irrelevant for professors were removed. In the present study 42 items were used from the Hassles Scale. For example, selected items included hassles and daily stressors most likely to occur in the lives of university professors such as "too many interruptions," "concerns about job security," "too

many meetings," "too many things to do." Internal consistency (Cronbach's coefficient alpha) for the Hassles Intensity was .94 in the present study.

Kanner and his colleagues (1981) reported average test-retest correlations of .79 for Hassles Frequency and .48 for Hassles Intensity over a nine month period. They also found that Hassles Frequency was correlated (r = .60) with psychological symptoms measured by the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). Concurrent validity was also established by Ruffin (1993) who found that the General Health Questionnaire (Goldberg, 1972), a measure of nonpsychotic impairment, moderately correlated with both frequency (.39) and intensity (.62) on the Hassles Scale. In addition, investigations on numerous samples including corporate employees (Monroe, 1983), Navajo Indians (Williams, Zyzanski, & Wright, 1992), and middle-aged adults (Kanner et al, 1981; Zarski, 1984) have found the Hassles Scale to be predictive of later psychological and physical symptoms.

Frost Multidimensional Perfectionism Scale (FMPS)

The Multidimensional Perfectionism Scale (FMPS) developed by Frost and his colleagues (Frost, Marten, Lahart, & Rosenblate, 1990) is a 35-item instrument designed to measure the several components of perfectionism. Respondents rated their agreement with 35 statements on a five-point Likert scale ranging from "strongly disagree" to "strongly agree" (Frost et al., 1990). The subscale and total scores are derived by summing individual item scores, with higher scores suggesting greater amounts of perfectionism. The FMPS produces a total perfectionism score as well as scores on six subscales. The Concern Over Mistakes scale reflects negative

reactions to mistakes, a tendency to interpret mistakes as equivalent to failure, and a tendency to believe that one will lose the respect of others following failure (examples, "People will probably think less of me if I make a mistake", "I should be upset if I make a mistake"). The Personal Standards scale reflects the setting of very high standards and the importance placed on these high standards for self-evaluation (examples, "If I do not set the highest standards for myself, I am likely to end up a second-rate person", "I hate being less than the best at things"). The tendency to believe that one's parents set very high goals encompassed the Parental Expectations scale (examples, "My parents expected excellence from me", "My parents wanted me to be the best at everything"), and the perception that ones' parents are (or were) overly critical formed the Parental Criticism scale (examples, "As a child I was punished for doing things less than perfect", "I never felt like I could meet my parents standards"). The Doubts About Actions scale reflects the extent to which people doubted their ability to accomplish tasks (examples, "Even when I do something very carefully, I often feel that it is not quite right", "I tend to get behind in my work because I repeat things over and over"). And lastly, the Organization scale reflects the importance placed on order (examples, "Organization is very important to me", "I try to be a neat person").

The FMPS has good to excellent reliability, with Cronbach's alphas that range from .77-.93 for the subscales and an alpha of .90 for the total score (Frost et al., 1990). In the present study, alpha's for the subscales ranged from .78-.91, and the alpha for the overall total was .92. According to Frost and his colleagues, FMPS has good concurrent validity, significantly correlating with other perfectionism measures,

the Burns Perfectionism Scale (Burns, 1980), the Eating Disorders Inventory (Garner, Olmstead, & Polivy, 1983), and more recently the Hewitt and Flett (1991) Multidimensional Perfectionism Scale which has also shown strong concurrence with the FMPS (Frost, Heimberg, Holt, Mattia, Neubauer, 1993; Hewitt & Flett, 1991). The overall FMPS and/or several of its subscales have good construct validity, correlating with a variety of measures of psychopathology including psychiatric symptomatology (as measured by the Brief Symptom Inventory (BSI); Derogatis & Melisaratos, 1983), depression (Depressive Experiences Questionnaire (DEQ); Blatt, D'Afflitti, & Quinlan, 1976), obsessive-compulsive symptoms (Maudsley Obsessive Compulsive Inventory (MOCI); Rachman & Hodgson, 1980), and procrastination (Procrastination Assessment Scale for Students; Solomon & Rothblum, 1984). In addition, using a sample of men, Clavin, Clavin, Gayton, and Broida (1996) found the FMPS was correlated with scores on the Maudsley Obsessive-Compulsive Inventory, suggesting the construct validity and reliability of the FMPS which had been largely established with female samples can be extended to men.

Symptom Assessment-45 Questionnaire (SA-45)

The Symptom Assessment-45 Questionnaire (SA-45) is a brief yet comprehensive general assessment of psychiatric symptomatology for use in both psychiatric and non-psychiatric settings (Maruish, 2000). The SA-45 was derived from the original Symptom Checklist-90 (SCL-90; Derogatis, Lipman, & Covi, 1973), a traditional psychiatric measure with well established validity and reliability (Derogatis & Clearly, 1977; Derogatis, Rickels, & Rock, 1976). Cluster analysis techniques were used to condense the original 90 items into the 45 items of the SA-

45. Respondents are asked to rate their symptom prevalence on a 5-point scale with responses ranging from "Not at all" to "Extremely." The SA-45 is composed of 45 items with nine symptom domain scales and two summary indices of overall psychological distress. The Anxiety scale contains items that inquire about symptoms related to fearfulness, panic, and tension. The Depression scale asks about recent experiences of feeling lonely, hopeless, and worthless. The Hostility scale contains items pertaining to temper outbursts, frequent arguments, and urges to harm others. On the Interpersonal Sensitivity scale participants respond to symptomatic feelings about him or herself in relation to others such as feeling inferior around others and feeling uneasy when others are talking to or watching the respondent. The Obsessive-Compulsive scale reflects symptoms related to repetitive checking, difficulty making decisions and concentrating, need for correctness, and having one's mind go blank. The Paranoid Ideation scale contains items reflecting subtler forms of paranoid thinking, such as a feeling that others cannot be trusted. Respondents are asked to rate their recent experiences with fear or uneasiness when in crowds as well as avoidant behaviors with specific places, things, and activities on the Phobic Anxiety scale. The Psychoticism scale contains a number of symptoms of disordered thinking, such as ideas that one should be punished for his or her sins and feeling that others know or are controlling one's thinking. Finally, the Somatization scale contains items of vague physical symptoms such as tingling and heaviness in various parts of the body. In addition to the nine symptom domain scales, the SA-45 provides a Global Severity Index (GSI) and a Positive Symptom Total (PST). The PST index is the total number of symptoms reported to be present (i.e., items with responses other than "Not at

all"). The GSI represents the total of the item response values (ranging from 1 to 5) for all items on the SA-45. Both the PST and GSI have been useful for describing an overall level of psychopathology or symptomatology in other measures (Derogatis, 1992, 1993; Derogatis, Lipman, & Covi, 1973).

The SA-45 has moderate to strong reliability, with Cronbach's coefficient alpha's ranging from .71 to .92 for each of the nine scales in patient and non-patient adult populations (Davison et al., 1997). In the present study, alphas were between .73 and .95 on seven scales with the exception of Phobic Anxiety and Psychoticism which yielded .47 and .41, respectively. The alpha for the overall total score (GSI) for the present study was an impressive .93. The SA-45 publisher reports test-retest reliability correlations generally in the .80s, with two noteworthy exceptions, the Somatization scale (.69) and the Anxiety scale (.42). As an explanation for these differences, it is hypothesized that these two scales may be sensitive to variations in normal, everyday experiences. Adequate validities of the SA-45 subscales have been reported by the publisher. Specifically, construct validity has been demonstrated with lower inter-scale correlations in the SA-45 when compared to the SCL-90 and the Brief Symptom Inventory (BSI; Derogatis, 1992,1993), indicating better distinctiveness among the subscales of the SA-45. Concurrent validity for the SA-45 has been demonstrated based on high correlations (generally .95 or higher) with the SCL-90 and the BSI. The extremely high correlation with the SCL-90 further supports the SA-45 as a valid alternate form.

Job Appraisal Survey

The Job Appraisal Survey is a brief measure adapted from a study by Kyriacou and Sutcliffe (1979) consisting of three questions used to assess job satisfaction, intention to change professions, and absenteeism. Flett, Hewitt, and Hallet (1995) also used a similar version of this measure when examining perfectionism and job stress in school teachers, in order to obtain a broader understanding of perfectionism in job-related outcomes. In the present study, participants were asked "Overall, how satisfied are you with being a university professor as a job?" Response options ranged from "very dissatisfied" to "very satisfied." Next, they were asked "How likely is it that you will still be a university professor in 10 years time?" and response options ranged from "very unlikely" to "very likely." And lastly, professors were asked how many days they were absent from their job in the previous year.

RESULTS

The present study looked at the relations between all of the variables, and sought to test the accuracy of each hypothesis. The analyses of these relations included Welch's *t*-test, correlations, and hierarchical multiple regression. All of the data were analyzed separately for males and females given the issue of gender differences thought to exist in psychological difficulties (Gmelch, Wilke, & Lovich, 1986; Hogan, Carlson, & Dua, 2002; Winefield, 2000).

Descriptive Analyses

The means and standard deviations for totals of all the measures are displayed in Table 1. The means obtained for the Frost MPS are comparable to other samples found in the literature. Adkins and Parker (1996) reported an overall mean (FMPS without the Organization subscale) of 79.41 in their sample of college students that was almost identical to the total perfectionism mean (79.65) found in the present sample. Similarly, Chang (2000) found older adults (M = 46.99 years) in their study had an overall mean of 77.55. However, other studies have demonstrated that total perfectionism scores can vary between clinical and non-clinical samples. For example, Bastiani, Rao, Weltzin and Kaye (1995) found that their small sample of healthy women only had an overall mean score of 57, whereas the female patients with anorexia nervosa reported a mean perfectionism score of 96. Therefore, it is possible that the present sample may have possessed both clinical and non-clinical characteristics, with respect to perfectionism.

The only norms available in the literature for the SA-45 were reported by Davison et al. (1997), and these happened to be the same norms used in the SA-45

Technical Manual (Maruish, 2000). The overall mean for the Global Severity Index (GSI) for the nonpatient normative samples was 60.03 which was similar to the one found in the present sample of university professors (see Table 1).

The problem-focused and avoidant coping measures from the COPE scale (Carver et al. 1989) in the original work produced means at two different times of 31.86 and 33.62 (problem-focused coping) and 21.97 and 22.47 (avoidant coping) for the same university students. Similarly, Carver and Scheier (1994) reported means between 24.46 and 33.9 for problem-focused coping and means between 15.63 and 16.29 for avoidant coping. Both of these studies found mean scores for problem-focused and avoidant coping that were close to those established in the present study (refer to Table 1).

The measure of perceived social support (MSPSS) generally has means that are comparable to those found in the present study. Zimet et al. (1988) found that university students in their sample had a mean total of 69.60. Means of other populations as reported by Zimet and his associates were 72.12 in a sample of pregnant women and 66.96 in a sample of pediatric residents (Zimet et al. 1990).

Unfortunately, the mean of the Total Hassles severity (intensity _ frequency) obtained in this study cannot be compared to other studies since the present author chose to select only a limited number of items from the original scale (42 items from the original 117 items). However, it is likely that the mean hassles in the current sample would have been comparable to other samples of adults. For example, Kanner et al. (1981) used a sample of middle-aged adults and found the mean Hassles

Intensity was 1.47 which was identical to the mean found in the present study (M = 1.47; SD = 0.49).

The Job Appraisal Survey adapted from a study by Kyriacou and Sutcliffe (1979) only yielded results on one of the three questions asked. Two of the three questions were misinterpreted by the participants and had to be excluded. The participants had contrasting definitions of the word "absent" contained in the question "How many days were you absent from your job last year?" Since the question was interpreted as either vacation or sick days (or both), the data for this question were not included in the analyses. The other question not included in the analyses was "How likely is it that you will still be a university professor in 10 years time?" The difficulty encountered in interpreting the results from this question stemmed from the age of the sample. Many participants expressed confusion answering this question since their reason for not anticipating further involvement in their current position, was due to mandatory retirement. Therefore, this question was not able to properly discriminate job satisfaction, and was removed from the analyses. The one remaining question "Overall, how satisfied are you with being a university professor as a job?" produced a mean of 4.10 and a standard deviation of 0.96 on a scale ranging from 1 (very dissatisfied) to 5 (very satisfied). Thus, it appears most professors are satisfied (i.e., 4) with their current job. Additionally, the Welch's t-test for equality of means indicated that there were no differences in satisfaction for male and female professors ($t = 0.75$, $p < 0.45$).

Table 1

Means and Standard Deviations using the Total Sample

	Total Sample	
	M	*SD*
Total MSPSS[a]	65.12	13.39
Total Hassles Severity [b]	21.61	18.05
Problem-focused Coping[c]	36.57	5.97
Avoidant Coping[d]	17.74	4.63
Global Severity Index[e]	63.06	16.48
Total FMPS (without O)[f]	79.65	17.65

Note.
[a] Multidimensional Scale of Perceived Social Support
[b] The Hassles Scale (intensity _ frequency)
[c] Problem-focused Coping from COPE
[d] Avoidant Coping from COPE
[e] Symptom Assessment-45 Questionnaire (SA-45)
[f] Frost Multidimensional Perfectionism Scale (FMPS)

Gender Comparisons

In order to test the first hypothesis, *t*-test's were performed to compare the means of males and females on all measured variables, and the results are reported in Table 2. The more conservative Welch's *t*-Test was used for all the comparisons because the sample sizes were not equal nor were the variances homogenous (Glass and Hopkins, 1996).

The Welch's *t*-Test results for the scale totals showed (refer to Table 2) that there were no differences between men and women on hassles, avoidant coping, or level of perfectionism. However, there were statistically significant differences between males and females for perceived social support ($t = -2.08$, $p < .05$), problem-focused coping ($t = -2.99$, $p < .01$), and overall psychological difficulties ($t = 2.11$, $p < .05$). Female professors had more perceived social support, used more of the adaptive problem-focused coping and had fewer psychological difficulties than their male counterparts. Because there were significant differences between men and women in several crucial variables further analyses were performed for each gender as well as the total sample.

Table 2

Welch's *t*-Test, Means, and Standard Deviations for Males and Females

	Males		Females		Welch's *t*-test	
	M	*SD*	*M*	*SD*	*t*	*p*-value
Total MSPSS[a]	63.83	13.34	66.74	13.26	-2.08	0.04*
Total Hassles Severity[b]	21.57	18.68	21.37	16.53	0.11	0.91
Problem-focused Coping[c]	35.74	6.23	37.60	5.60	-2.99	0.003**
Avoidant Coping[d]	17.87	4.88	17.32	4.09	1.17	0.25
Global Symptom Index[e]	64.35	17.10	60.92	14.01	2.11	0.04*
Total FMPS (without O)[f]	79.74	16.77	79.16	18.22	0.32	0.75

Note.

[a] Multidimensional Scale of Perceived Social Support
[b] The Hassles Scale (intensity _ frequency)
[c] Problem-focused Coping from COPE
[d] Avoidant Coping from COPE
[e] Symptom Assessment-45 Questionnaire (SA-45)
[f] Frost Multidimensional Perfectionism Scale (FMPS)

*$p < .05$. **$p < .01$. ***$p < .001$.

Correlational Analyses

Pearson correlations were computed to determine the extent to which perfectionism, problem-focused and avoidant coping, perceived social support, hassles, and psychological difficulties were associated. These correlations were also examined separately by gender. The correlations that emerged are discussed below.

Perfectionism

Pearson correlations were computed between scores on each of the measures. These results are shown in Table 3 for the total sample. It can be seen that total perfectionism was significantly correlated with overall psychological difficulties as measured by the Global Severity Index ($r(381) = .54, p < .01$). In addition, all variables from the subscales of the SA-45 were significantly correlated with perfectionism. These included: Somatization ($r(381) = .20, p < .01$), Depression ($r(381) = .41, p < .01$), Anxiety ($r(381) = .45, p < .01$), Obsessive-Compulsivity ($r(381) = .38, p < .01$), Hostility ($r(381) = .36, p < .01$), Phobic Anxiety ($r(381) = .28, p < .01$), and Psychoticism ($r(381) = .33, p < .01$). The association between perfectionism and the subscales of Interpersonal Sensitivity ($r(381) = .53, p < .01$) and Paranoid Ideation ($r(381) = .50, p < .01$) were especially strong. Other variables significantly correlated with total perfectionism included: perceived social support, severity of hassles, avoidant coping, and job satisfaction.

Total perfectionism was significantly correlated with all variables on the SA-45 measuring psychological difficulties for both men and women. Also, higher levels of perfectionism had a positive association with more hassles, and a negative association with job satisfaction. However, differences emerged between genders on the coping

Table 3

Correlational Analyses Using the Total Sample

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CM[a]	—	.53**	.44**	.54**	.53**	.09	.88**	.52**	.37**	-.14**	.25**	.05	-.31**
2. PS[a]	—	—	.44**	.31**	.21**	.30**	.70**	.32**	.29**	.00	.00	.24**	-.07
3. PE[a]	—	—	—	.60**	.19**	.19**	.70**	.21**	.12*	.05	.07	.08	-.10
4. PC[a]	—	—	—	—	.39**	.08	.74**	.36**	.22**	-.13*	.22**	-.04	-.20**
5. D[a]	—	—	—	—	—	-.08	.60**	.55**	.40**	-.16**	.33**	-.10	-.31**
6. O[a]	—	—	—	—	—	—	.16**	-.07	-.07	.16**	-.18**	.22**	.07
7. Total Perfect[a]	—	—	—	—	—	—	—	.54**	.39**	-.10*	.23**	.08	-.28**
8. GSI[b]	—	—	—	—	—	—	—	—	.66**	-.26**	.45**	-.01	-.41**
9. Total Hassles[c]	—	—	—	—	—	—	—	—	—	-.20**	.27**	-.01	-.30**
10. MSPSS[d]	—	—	—	—	—	—	—	—	—	—	-.17**	.09	.18**
11. Avoid Coping[e]	—	—	—	—	—	—	—	—	—	—	—	-.25**	-.19**
12. PF Coping[f]	—	—	—	—	—	—	—	—	—	—	—	—	.07
13. Job Satisf.[g]	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. CM = Concern over Mistakes; PS = Personal Standards; PE = Parental Expectations; PC = Parental Criticism; D = Doubts about Actions; O = Organization; Total Perfect. = Total Perfectionism; GSI = Global Severity Index; MSPSS = Multidimensional Scale of Perceived Social Suppport; Avoid Coping = Avoidant Coping; PF Coping = Problem-focused Coping; Job Satisf. = Job Satisfaction.

[a]Frost Multidimensional Perfectionism
[b]Symptom Assessment-45 Questionnaire
[c]The Hassles Scale
[d]Multidimensional Scale of Perceived Social Support
[e]Avoidant Coping from COPE
[f]Problem-focused Coping from COPE
[g]Job Satisfaction Survey

*$p < .05$. **$p < .01$.

variables (see Tables 4 and 5). Only males had significant correlations between overall perfectionism and problem-focused coping ($r(199) = .21$, $p < .01$) and avoidant coping ($r(199) = .25$, $p < .01$).

Psychological Difficulties

As expected, overall psychological difficulties on the Global Severity Index for the total sample were significantly correlated with all of the subscales of perfectionism except Organization (see Frost et al., 1990). Consistent with the second hypothesis, Table 3 reveals that greater levels of psychological difficulties were associated with greater levels of Concern over Mistakes ($r(381) = .52$, $p < .01$) and Doubts about Actions ($r(381) = .55$, $p < .01$). As well, psychological difficulties were significantly correlated with perceived social support, severity of hassles, avoidant coping, and job satisfaction.

Elevated psychological difficulties for females and males were significantly correlated with higher levels of perfectionism, hassles, and avoidant coping, along with lower job satisfaction (refer to Tables 4 and 5). However, the results indicated that only males who had experienced more psychological problems had less perceived social support ($r(199) = -.32$, $p < .01$). This finding is in agreement with the fourth hypothesis put forth in this study, however it seems to apply to only males.

Table 4

Correlational Analyses for Females

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CM[a]	—	.51**	.40**	.54**	.60**	.13	.88**	.53**	.44**	-.13**	.16*	-.13	-.38**
2. PS[a]	—	—	.42**	.31**	.26**	.32**	.70**	.36**	.35**	-.07	-.07	.16*	-.06
3. PE[a]	—	—	—	.57**	.27**	.29**	.69**	.24**	.16*	.02	-.02	.05	-.18*
4. PC[a]	—	—	—	—	.39**	.17*	.72**	.29**	.24**	-.20**	.07	-.09	-.27**
5. D[a]	—	—	—	—	—	-.08	.66**	.58**	.45**	-.09	.25**	-.21**	-.42**
6. O[a]	—	—	—	—	—	—	.23**	.01	.03	.12	-.15	.21**	.08
7. Total Perfect[a]	—	—	—	—	—	—	—	.55**	.45**	-.13	.11	-.06	-.36**
8. GSI[b]	—	—	—	—	—	—	—	—	.69**	-.06	.28**	-.07	-.47**
9. Total Hassles[c]	—	—	—	—	—	—	—	—	—	-.02	.13	-.09	-.39**
10. MSPSS[d]	—	—	—	—	—	—	—	—	—	—	-.04	.04	.06
11. Avoid Coping[e]	—	—	—	—	—	—	—	—	—	—	—	-.27**	-.07
12. PF Coping[f]	—	—	—	—	—	—	—	—	—	—	—	—	.14
13. Job Satisf.[g]	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. CM = Concern over Mistakes; PS = Personal Standards; PE = Parental Expectations; PC = Parental Criticism; D = Doubts about Actions; O = Organization; Total Perfect. = Total Perfectionism; GSI = Global Severity Index; MSPSS = Multidimensional Scale of Perceived Social Suppport; Avoid Coping = Avoidant Coping; PF Coping = Problem-focused Coping; Job Satisf. = Job Satisfaction.

[a]Frost Multidimensional Perfectionism
[b]Symptom Assessment-45 Questionnaire
[c]The Hassles Scale
[d]Multidimensional Scale of Perceived Social Support
[e]Avoidant Coping from COPE
[f]Problem-focused Coping from COPE
[g]Job Satisfaction Survey

*$p < .05$. **$p < .01$.

Table 5

Correlational Analyses for Males

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. CM[a]	—	.53**	.46**	.52**	.44**	.07	.88**	.50**	.29**	-.12	.26**	.21**	-.24**
2. PS[a]	—	—	.45**	.29**	.16*	.30**	.70**	.27**	.22**	.10	-.01	.30**	-.04
3. PE[a]	—	—	—	.63**	.12	.12	.71**	.14*	.05	.12	.07	.11	-.01
4. PC[a]	—	—	—	—	.37**	.06	.73**	.35**	.16*	-.03	.26**	.00	-.10
5. D[a]	—	—	—	—	—	-.01	.54**	.56**	.38**	-.20**	.36**	.02	-.24**
6. O[a]	—	—	—	—	—	—	.15*	-.10	-.13	.17*	-.21**	.19**	.09
7. Total Perfect[a]	—	—	—	—	—	—	—	.51**	.31**	-.04	.25**	.21**	-.18**
8. GSI[b]	—	—	—	—	—	—	—	—	.61**	-.32**	.48**	.06	-.34**
9. Total Hassles[c]	—	—	—	—	—	—	—	—	—	-.30**	.31**	.04	-.20**
10. MSPSS[d]	—	—	—	—	—	—	—	—	—	—	-.21**	.09	.26**
11. Avoid Coping[e]	—	—	—	—	—	—	—	—	—	—	—	-.26**	-.26**
12. PF Coping[f]	—	—	—	—	—	—	—	—	—	—	—	—	.03
13. Job Satisf.[g]	—	—	—	—	—	—	—	—	—	—	—	—	—

Note. CM = Concern over Mistakes; PS = Personal Standards; PE = Parental Expectations; PC = Parental Criticism; D = Doubts about Actions; O = Organization; Total Perfect. = Total Perfectionism; GSI = Global Severity Index; MSPSS = Multidimensional Scale of Perceived Social Su ppport; Avoid Coping = Avoidant Coping; PF Coping = Problem-focused Coping; Job Satisf. = Job Satisfaction.

[a]Frost Multidimensional Perfectionism
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[e]Avoidant Coping from COPE
[f]Problem-focused Coping from COPE
[g]Job Satisfaction Survey

*$p < .05$. **$p < .01$.

Total Hassles

Table 3 reveals that the severity of hassles in the total sample were significantly correlated with all of the measures of perfectionism (except Organization) and psychological difficulties: Somatization ($r(381) = .41, p < .01$), Interpersonal Sensitivity ($r(381) = .55, p < .01$), Depression ($r(381) = .56, p < .01$), Anxiety ($r(381) = .55, p < .01$), Obsessive-Compulsivity ($r(381) = .52, p < .01$), Hostility ($r(381) = .39, p < .01$), Phobic Anxiety ($r(381) = .26, p < .01$), Paranoid Ideation ($r(381) = .52, p < .01$), and Psychoticism ($r(381) = .29, p < .01$). Interestingly, the positive association between the severity of hassles and the Global Severity Index ($r(381) = .66, p < .01$) was the strongest relationship among all of the scales measured in this study. This finding partially supports the third hypothesis in this study suggesting professors high in hassles would also be high in psychological difficulties. Significant correlations were also found for the perceived social support, avoidant coping, and job satisfaction measures.

The results indicated male and female professors with greater hassles had higher levels of perfectionism, and were less satisfied with their job (see Tables 4 and 5). However, only the results from the males indicated that greater hassles were associated with less perceived social support ($r(199) = -.30, p < .01$) and more avoidant coping ($r(199) = .31, p < .01$).

Avoidant Coping

Greater levels of avoidant coping were significantly associated with greater levels of perfectionism on select dimensions: Concern over Mistakes, Parental Criticism, Doubts about Actions, and the Total Perfectionism score. However, the

Organization subscale of the FMPS was negatively associated with avoidant coping. All of the indices of psychological difficulties were found to be positively correlated with avoidant coping: Somatization ($r(381) = .23, p < .01$), Interpersonal Sensitivity ($r(381) = .40, p < .01$), Depression ($r(381) = .36, p < .01$), Anxiety ($r(381) = .31, p < .01$), Obsessive-Compulsivity ($r(381) = .38, p < .01$), Hostility ($r(381) = .36, p < .01$), Phobic Anxiety ($r(381) = .18, p < .01$), Paranoid Ideation ($r(381) = .33, p < .01$), and Psychoticism ($r(381) = .30, p < .01$). Also supporting the third hypothesis, a strong association was found between avoidant coping and the Global Severity Index ($r(381) = .45, p < .01$). Not surprisingly, hassles were positively associated with avoidant coping. And, as expected, lower levels of the adaptive qualities of perceived social support and problem-focused coping were associated with greater levels of avoidant coping.

Tables 4 and 5 show that higher avoidant coping for both male and female professors was associated with lower problem-focused coping. Once again, however, there were significant relationships between other variables for males only. Male professors who used more avoidant coping also had more hassles ($r(199) = .31, p < .01$) and less perceived social support ($r(199) = -.21, p < .01$).

Problem-focused Coping

In the total sample, problem-focused coping was only associated with two subscales of perfectionism i.e., Personal Standards and Organization as well as with avoidant coping. However, there were no significant associations with any measures of psychological difficulties on the SA-45. Therefore, this part of hypothesis four was not supported.

The only notable differences between male and female professors in their use of problem-focused coping pertained to the perfectionism subscales. For females professors, the hypothesized adaptive problem-focused coping was negatively associated with the Doubts about Actions ($r(168) = -.21, p < .01$) subscale as expected. However, for the males in this study, problem-focused coping was positively correlated with another maladaptive subscale of the FMPS, Concern over Mistakes ($r(199) = .21, p < .01$) .

Perceived Social Support

In the total sample, perceived social support was negatively associated with Concern over Mistakes, Parental Criticism, Doubts about Actions, and Total Perfectionism. Similarly, a negative relationship between perceived social support and several indices of the SA-45 was found: Interpersonal Sensitivity ($r(381) = -.19$, $p < .01$), Depression ($r(381) = -.34, p < .01$), Anxiety ($r(381) = -.18, p < .01$), Obsessive-Compulsivity ($r(381) = -.21, p < .01$), Hostility ($r(381) = -.21, p < .01$), Paranoid Ideation ($r(381) = -.20, p < .01$), and the Global Severity Index ($r(381) = -.26, p < .01$). Also, hassles and avoidant coping were negatively associated. However, a positive association between perceived social support was found with the Organization subscale of the FMPS and job satisfaction.

The data for female professors indicated that perceived social support had no significant positive associations. However, greater perceived social support was associated with lower levels of Parental Criticism on the FMPS and Depression ($r(168) = -.17, p < .05$) on the SA-45.

For males, there was a negative relationship between perceived social support and numerous variables involving psychological difficulties including: Interpersonal Sensitivity ($r(199) = -.24, p < .01$), Depression ($r(199) = -.40, p < .01$), Anxiety ($r(199) = -21, p < .01$), Obsessive-Compulsivity ($r(199) = -31, p < .01$), Hostility ($r(199) = -27, p < .01$), Paranoid Ideation ($r(199) = -23, p < .01$), and the Global Severity Index ($r(199) = -32, p < .01$). In addition, the correlations indicated that low perceived social support would result in more doubts about actions, hassles and avoidant coping in male professors. However, more perceived social support was associated with greater job satisfaction.

Predicting Psychological Difficulties

Hierarchical regression procedures were used to test perfectionism's ability to predict psychological difficulties. In addition, regression analyses were used to measure the incremental contribution of perfectionism on psychological difficulties after removing variance attributable to hassles, avoidant and problem-focused coping, and perceived social support. By examining perfectionism's drop in unique predictive power after all variables were entered into the analyses, the mediating effects of the other variables in this sample could be considered (Baron & Kenny; 1986; Chang & Rand, 2000; Chang & Sanna, 2001). Several statistical assumptions needed to be confirmed (Tabachnick & Fidell, 1989). All of the assumptions were met including: the ratio of cases to independent variables (which was easy to satisfy given the large sample size in this study); the issues of outliers, normality, linearity, homoscedasticity, and independence of residuals were all found to be conducive to hierarchical regression based on graphical analyses; and finally, the default function

of the SPSS statistical program protected against inclusion of multicollinearity variables.

Perfectionism as a Predictor of Psychological Difficulties

Perfectionism was a significant predictor of psychological difficulties in the total sample. In Table 6, with psychological difficulties as the dependent measure in the model, the analyses found that 29% (F_{change} (1, 379) = 154.21, $p < .000$) of the variance was accounted for by perfectionism. This analysis suggested that higher perfectionism strongly predicted greater levels of psychological difficulties in university professors.

The predictive power of perfectionism was analyzed separately for each gender. For females, 31% (F_{change} (1, 166) = 73.06, $p < .000$) of the variance in psychological difficulties was accounted for by perfectionism (refer to Table 7). Males in this sample, however, had slightly less variance accounted for by perfectionism. As shown in Table 8, 26% (F_{change} (1, 197) = 68.44, $p < .000$) of the variance was accounted for, 5% less than the variance with the female sample.

Hierarchical regression was used to determine the predictive power of hassles, coping, and perceived social support on psychological difficulties. The unique variance accounted for by perfectionism after these variables were entered in the regression model was also tested (see Table 9). Hassles, avoidant coping, problem-focused coping, and perceived social support were entered in the first step of the hierarchical regression model. Together, these variables accounted for 53% (F_{change} (4, 365) = 103.97, $p < .000$) of the variance in this sample of university professors. In

Table 6

Hierarchical Regression Analyses for Perfectionism Predicting Psychological Difficulties in the Total Sample (N = 381)

Variable	B	*SE* B	
Step 1			
Perfectionism	0.50	0.04	.54****

Note. $R^2 = .29$ for Step 1 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

Table 7

Hierarchical Regression Analyses for Perfectionism Predicting Psychological Difficulties in the Females (N = 168)

Variable	B	*SE* B	
Step 1			
Perfectionism	0.43	0.05	.55****

Note. $R^2 = .31$ for Step 1 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

Table 8

Hierarchical Regression Analyses for Perfectionism Predicting Psychological Difficulties in the Males (N = 199)

Variable	B	*SE* B	
Step 1			
Perfectionism	0.52	0.06	.51****

Note. $R^2 = .26$ for Step 1 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

Step 2, perfectionism was introduced into the model. With the other four variables (i.e., hassles, avoidant coping, problem-focused coping, and perceived social support) accounted for, perfectionism added 7% (F_{change} (1, 364) = 63.17, $p < .000$) unique variance. Together all five variables accounted for 60% of the variance in predicting psychological difficulties on the SA-45. Although perfectionism accounts for 7% of the variance after all the other variables have been entered, this is a drop of 22% (see Table 6) from its' contribution when it is entered alone. This suggests that some of the other variables might be mediating the relationship between perfectionism and psychological difficulties.

Of particular significance was the power of hassles in predicting psychological difficulties. This suggests that hassles may be the largest mediator in the relationship between perfectionism and psychological difficulties in this sample. As well, avoidant coping was highly significant in this model, and seemed to act as a possible mediator between perfectionism and psychological difficulties. On the other hand, problem-focused coping added almost nothing to this relationship, and therefore seemed to play little in the predictive or mediating role.

A comparison of the genders in Tables 10 and 11 indicated that hassles and avoidant coping both possessed considerable predictive power in accounting for male and female professors' psychological difficulties. Surprisingly, perfectionism contributed an identical 7% unique variance in predicting psychological problems for both men and women. However, some noteworthy differences existed between the genders. In the female professors, both problem-focused coping and perceived social support had virtually no predictive role in accounting for psychological difficulties,

with or without perfectionism accounted for. On the other hand, for male professors, when perfectionism was not entered in the regression model, greater problem-focused coping was a significant predictor of psychological difficulties. And, low perceived social support continued to significantly predict more psychological problems, even when perfectionism was accounted for in Step 2 (see Table 11).

Table 9

Hierarchical Regression Analyses for Variables Predicting Psychological Difficulties in the Total Sample (N = 370)

Variable	B	*SE* B	
Step 1			
Total Hassles	0.51	0.03	.56****
Avoidant Coping	1.08	0.14	.30****
Problem-focused Coping	0.21	0.10	.07*
Perceived Social Support	-0.13	0.05	-.10**
Step 2			
Total Hassles	0.42	0.03	.46****
Avoidant Coping	0.90	0.173	.25****
Problem-focused Coping	0.11	0.10	.04
Perceived Social Support	-0.12	0.04	-.10**
Perfectionism	0.27	0.03	.29****

Note. $R^2 = .53$ for Step 1; $\Delta R^2 = .07$ for Step 2 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

Table 10

Hierarchical Regression Analyses for Variables Predicting Psychological Difficulties in Females (N = 165)

Variable	B	*SE* B	
Step 1			
Total Hassles	0.57	0.04	.69****
Avoidant Coping	0.68	0.19	.20****
Problem-focused Coping	0.04	0.14	.02
Perceived Social Support	-0.04	0.06	-.04
Step 2			
Total Hassles	0.46	0.05	.56****
Avoidant Coping	0.63	0.17	.19****
Problem-focused Coping	0.05	0.13	.02
Perceived Social Support	-0.01	0.05	-.01
Perfectionism	0.22	0.04	.30****

Note. $R^2 = .55$ for Step 1; $\Delta R^2 = .07$ for Step 2 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

Table 11

Hierarchical Regression Analyses for Variables Predicting Psychological Difficulties in Males (N = 194)

Variable	B	*SE* B	
Step 1			
Total Hassles	0.42	0.05	.46****
Avoidant Coping	1.23	0.20	.35****
Problem-focused Coping	0.39	0.15	.14*
Perceived Social Support	-0.16	0.07	-.12*
Step 2			
Total Hassles	0.36	0.05	.39****
Avoidant Coping	0.95	0.19	.27****
Problem-focused Coping	0.18	0.14	.07
Perceived Social Support	-0.19	0.07	-.15**
Perfectionism	0.31	0.05	.30****

Note. $R^2 = .49$ for Step 1; $\Delta R^2 = .07$ for Step 2 (ps < .000).

*$p < .05$.**$p < .01$. ***$p < .001$. ****$p < .000$.

DISCUSSION

In this section the results generated by the present study are reviewed and discussed. There were several central findings, some of which were surprising. First, the results indicated that the psychological difficulties experienced by university professors, were similar to those found in normative samples. Second, female professors had fewer psychological difficulties than males. In addition, the women used more problem-focused coping and perceived themselves to have more social support than their male counterparts. Third, Concern over Mistakes and Doubts about Actions were the subscales of perfectionism that had the highest correlation with psychological difficulties. Fourth, hassles was the variable with the greatest association with psychological difficulties. Fifth, perfectionism accounted for substantially less unique variance in predicting psychological difficulties after hassles and avoidant coping were added to the regression model. This suggested that these latter variables may be mediating the relationship between perfectionism and psychological difficulties. Sixth, problem-focused coping had little ability to predict psychological difficulties for both male and female professors. Also, low perceived social support did significantly predict psychologieal difficulties, but only for male professors. And finally, job satisfaction in this sample was fairly high even though the literature suggests that professors are often dissatisfied with their occupation.

University professors in this sample had average levels of psychological difficulties (Maruish, 2000). This was unexpected given that previous studies had indicated that job-related stress had a deleterious impact on their professional work and personal welfare (e.g., Fisher, 1994; Gillespie et al., 2001; Seldin, 1987;

Winefield, 2000). Similarly, Wageman (2000) found that burnout was higher in university faculty than other professional occupations. One possible explanation for the discrepancy with the findings in this study and those found in other related studies may be due to the different instrumentation used. With the exception of Fisher (1994), studies on professors have only measured stress levels rather than psychological difficulties. Although stress has been found to be a strong predictor of psychological difficulties in the work environment (e.g., Baker & Williams, 2001; Chan, 1998) it has not been demonstrated to be equivalent in magnitude to psychopathology. It is largely agreed upon by the research community that stress constitutes a vulnerability to psychopathology, but does not guarantee its presence (Zuckerman, 1999). Therefore, the present study offers some preliminary results on the level of psychological difficulties experienced by university professors, but at this time, there are no known studies using this specific population to compare and contrast these findings.

A surprise finding in this study was the discovery that female professors did not experience more psychological difficulties than males. In fact, women reported significantly less distress than men (see Table 2). The results from the *t*-tests suggest this difference may partly be explained by the coping strategies they employ. Specifically, females were more likely to use problem-focused coping than males. Similar results have been found among managerial positions where females utilized significantly more problem-focused coping than their male associates (McDonald & Korabik, 1991). Therefore, female professors' propensity to use more adaptive coping strategies than males, may account for males having more psychological distress in

this sample. However, the hierarchical regression analyses indicated that problem-focused coping did not play a significant role in accounting for psychological difficulties in women. Therefore, it does not appear that use of problem-focused coping accounted for the differences in psychological difficulties between genders.

Another potential explanation for the differences in psychological difficulties may be that females in this sample were more likely to perceive themselves to have available social support compared to males. It is possible that women have more collegial spirit than men because of their minority status in universities or perhaps the difference is because women seem to benefit more than men from both work and family social support (Perrewe & Carlson, 2002). The regression analyses indicated that men who perceived themselves to have fewer social supports experienced more psychological difficulties. However, this predictive relationship did not hold for females and this suggests that distressed women are not lacking social support like their male counterparts. Although it is not entirely clear why female professors experience less psychological problems than males, it would seem that females employ more effective strategies to help offset the demands and pressures experienced in their vocational roles compared to their fellow male professors. Nevertheless, further investigation is required to better understand the function of problem-focused coping and perceived social support in predicting psychological difficulties in university professors.

As expected, escalations in psychological difficulties were positively associated with total perfectionism. However, correlational data in this study indicated that the adaptive and maladaptive split of the FMPS suggested by some authors (e.g., Flett,

Sawatzky, & Hewitt, 1995; Stober, 1998) did not appear in this sample. Specifically, the adaptive Personal Standards subscale of the FMPS was significantly correlated with all nine of the subscales on the SA-45 as well as its Global Severity Index. This indicated that the overall perfectionism total should include all of the perfectionism dimensions except the Organization subscale (see Frost et al., 1990, 1993). Further evidence for the exemption of the Organization subscale was found in the correlational analyses that revealed very weak correlations with the SA-45 and the total perfectionism score. Nevertheless, certain dimensions of perfectionism were found to have greater influence on psychological difficulties. As hypothesized, the Concern over Mistakes and Doubts about Actions were the dimensions of perfectionism that had the strongest correlations with the SA-45. This finding suggests that some of the occupational pressures of university professors may be closely related to work activities where accuracy and decision making are deemed to be paramount. In other words, it may be that these excessive and harsh demands are internalized by some individuals and this can lead them to become more susceptible to psychological difficulties.

In the present study, hierarchical regression analyses were used to determine how much unique variance in psychological difficulties could be accounted for by perfectionism after four variables (i.e., hassles, avoidant coping, problem-focused coping, and perceived social support) were accounted for. Consistent with previous research (e.g., Hewitt & Flett, 1993; O'Connor & O'Connor, 2003) perfectionism was found to account for a substantial amount of variance (i.e., 29%) in predicting psychological distress. However, once the four variables were entered into the

analysis, perfectionism's unique variance, although still highly significant, dropped considerably to only 7% in predicting psychological difficulties. This strongly suggests that the other variables in the analysis may have been contributing, and therefore mediating the perfectionism-psychological difficulties relationship. A more in-depth exploration of each variable's contribution is discussed in the following sections.

This study attempted to determine how perfectionism related to other variables (hassles, avoidant coping, problem-focused coping, and perceived social support) that past research had found to either mediate or moderate the perfectionism-psychological distress link (e.g., Dunkley & Blankstein, 2000; Dunkley et al., 2000). As hypothesized, the severity of hassles experienced was determined to be a strong predictor of psychological difficulties. This finding was consistent with the many studies that have emphasized the adverse impact of hassles on psychological health (e.g., DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Kohn, Hay, & Legere, 1994; Nakano, 1988; Vollrath, 2000). As well, the severity of hassles experienced by an individual can greatly increase one's susceptibility to psychological difficulties if they have perfectionistic tendencies (Hewitt & Flett, 1993). In fact, hassles drastically lowered perfectionism's unique variance which suggested this variable mediated the perfectionism-psychological difficulties relationship in this sample. Also, hassles had the strongest association with perfectionism out of the variables used to predict psychological difficulties. One possible explanation of these findings is that perfectionists experience hassles with higher frequency and intensity, perhaps because perfectionists actually generate or instigate stress and this stress uniquely

contributes to the greater tendency of these individuals to experience psychological difficulties (Dunkley & Blankstein, 2000; Dunkley et al., 2000). Similarly, perfectionists tend to engage in all-or-none thinking, and failures tend to be overgeneralized which suggests that high levels of perfectionism may influence the psychological impact of even minor events such as hassles (Hewitt & Flett, 1993). Thus, it seems clear that hassles play an important role in the lives of perfectionistic professors and that the long-term effects of these daily stressors can lead to psychological problems (Vollrath, 2000).

Another explanation for the elevated hassles found in this study may relate to the ill-defined roles of the position of a university professor. For instance, although the "publish or perish" motto (Fisher, 1994) may have become well ingrained in the minds of professors, there are often no prescribed quotas of how many scholarly publications are required and this may be hard for perfectionists to deal with. Likewise, the evaluative criteria used to determine whether a promotion will take place is often hard to anticipate, and therefore it is difficult for a professor to know how much effort or attention to detail is required in their occupation. It seems that all these exacting pressures coupled with the ambiguity of their professional role are further intensified by the presence of excessive hassles. This suggests that perfectionistic university professors are more prone to experience increased levels of psychological distress when they perceive themselves to have higher levels of hassles. Therefore, as Dunkley et al. (2000) suggested, modifying the primary stress appraisal process might be a crucial factor in the treatment of perfectionism and hassles.

Another confirmed hypothesis in this study was the strong association between avoidant coping and psychological difficulties. Also, avoidant coping was significantly related to perfectionism. Collectively, these results suggest that perfectionistic individuals were more likely to use coping strategies that avoid rather than confront difficult tasks. In doing so, these individuals expend additional resources, not attempting to solve their problem, but instead, to find ways to avoid tackling the issue at hand. In fact, exercising this coping strategy may be one way in which individuals with high levels of perfectionism seek to control the uncertainty and ambiguity in decision-making, that is, by simply avoiding these seemingly uncontrollable difficulties. It's not surprising then, that avoidant coping among individuals high in perfectionism has been linked to psychological distress in several studies (e.g., Dunkley & Blankstein, 2000; Dunkley et al., 2003).

An interesting but unpredicted finding in this study was the lack of association between problem-focused coping and psychological distress. It was hypothesized that professors high in their use of problem-focused coping would exhibit lower levels of psychological difficulties. Instead, no significant association was found between these two variables. One possible explanation may be the lack of control professors feel they have in their occupational role. For example, Roussi (2002) found that problem-focused coping was adaptive when stressors were controllable, however when the stressors were perceived to be out of the participants' control, distress increased. This suggests that the role ambiguity inherent in the occupation of a professor may decrease the effectiveness of this adaptive coping strategy.

As predicted, perceived social support was negatively associated with psychological difficulties, however this relationship only held for male professors. This finding suggests that male professors who do not feel they have a strong social support base will be less protected from the negative aspects associated with their profession. Conversely, this finding may indicate that most female professors perceive themselves to have many social supports, and therefore this variable would not have an effect on their degree of psychological difficulties. This explanation is consistent with Walen and Lachman (2000), who found that although both men and women had similar supportive networks, only women regularly used this social support as a buffer against the detrimental effects of strained interactions. Thus, this finding may not be so aberrant after all. Nevertheless men can still continue to increase their use of social support. For instance, Anthony and Swinson (1998) suggested one way to potentially protect against the psychological difficulties associated with perfectionism, would involve broadening one's social circle to create a feeling of belonging rather than alienation.

An unanticipated finding revealed in this study was the relatively high degree of job satisfaction experienced by professors. Previous research indicated that job dissatisfaction in university faculty was common and increased substantially with stress (Dua, 1994; Wong, 1989). Professors in this sample, however, on average reported close to normal levels of psychological distress and felt fairly satisfied with their job. One possible explanation may be that the general degree of stress in this society has risen to a new norm where adults expect to endure somewhat elevated levels of stress. Therefore, although their occupational role is endowed with many

stressors, most professors in this sample may have adapted to and eventually accepted the additional pressures involved with their profession.

A final look at the data exposed some peculiar relationships involving perfectionism. In particular, the associations between perfectionism and the subscales on the SA-45 revealed that Interpersonal Sensitivity and Paranoid Ideation had the strongest relationship for perfectionists. From these findings, one can speculate that professors high in perfectionism may feel self-conscious or be paranoid about what others are saying or thinking about their work performance. This seems to be similar to the relationship between higher hassles and perfectionism (Hewitt & Flett, 1993) except in this case, the uncertainty of whether professors are meeting the demands of the job has manifested itself into distorted thinking. Although there are some plausible explanations for the strained relations and paranoia experienced by some perfectionistic professors, a more cautious interpretation of these findings would suggest these are merely indicators of a highly competitive work environment.

In summary, this study suggests that the culmination of exacting demands (i.e., perfectionism) and role ambiguity (well established as a major source of psychological distress for university professors e.g., Gmelch et al., 1986; Leung et al., 2000) both produce a whole that is much more detrimental to psychological health than either by themselves. Furthermore, it is clear that other variables (i.e., hassles and avoidant coping) greatly influence the relationship between perfectionism and psychological difficulties. However, the normal levels of psychological difficulties and relatively high job satisfaction found in this study also suggests that the majority of university professors in this sample are well adjusted to their job requirements.

Limitations and Direction for Future Research

Limitations of the present study must be acknowledged. First, this study employed correlational and hierarchical regression analyses that only reflected associations and predictions, therefore no causal relations among the variables could be measured. However, a controlled experimental design would have allowed for causal relationships among the variables to be determined. Second, the complexity of the design and data collected would have been easier to interpret and compare to the literature if more advanced statistical analyses had been employed (i.e., structural equation modeling). Third, this study used self-report measures and it is not clear whether the same relations would emerge with other methods of data collection (e.g., interview, behavioral observations etc.). A qualitative approach would have allowed for a more in-depth exploration of what the experience of being a university professor is really like. Fourth, while a focus on perfectionism and psychological difficulties among university professors is a worthwhile (and well over due) research pursuit on its own, generalizations of the current findings to members of different groups of professionals must be further investigated.

Since research involving perfectionism among university professors is still in its infancy, more structured studies need to be conducted in order to document the human cost of this often demanding profession. For instance, the use of structural equation modeling would better determine the mediating and moderating effects of variables measured as well as allow for more significant comparisons to be made with similar studies in the literature (e.g., Dunkley & Blankstein, 2000; Dunkley et al., 2000). Future research should also assess the role of other potential mediators in the

link between perfectionism and psychological difficulties that are related to coping with psychological stress, such as dispositional versus situational influences (Dunkley et al., 2003). Furthermore, studies that include personal interviews will help broaden our understanding and bring additional meaning to the quantitative data gathered. Also, research needs to be conducted in other universities and with other professional populations to determine whether perfectionism and psychological difficulties are present in other samples. These studies would help identify whether the results found in the present study could be generalized to other groups of people.

Clinical Implications

These findings have important clinical implications for practitioners concerned with the treatment of perfectionism. Blatt (1995) suggested that perfectionists require long-term, intensive, dynamic psychotherapy in order to achieve lasting reorganization of the personality. However, short-term effects might be possible by treating the intermediate factors involved in perfectionistic thinking. Specifically, an approach to treatment that focuses on minimizing the hassles in one's life and decreasing avoidant strategies for dealing with tasks may be useful and effective. The short-term goal in therapy would be a re-appraisal of events and people's expectations, and a facilitation of the development of effective strategies that emphasize more problem-focused coping, less avoidant coping, and the reduction of hassles and other stressors. Lastly, instead of promoting a work environment that celebrates isolation, more team spirit and social events would help bolster a professor's sense of support from his or her co-workers. Whether implemented in

therapy or on one's own, these initiatives all have the potential to lessen the negative effects of perfectionism for the university professor.

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APPENDIX A

Cover Letter

Dear Professor,

My name is Joshua Dunn, I am a Master's student in the Counselling Psychology program at the University of Alberta. The present study will be used to fulfill the thesis requirements for my Master's degree.

The enclosed package contains a combination of measures to assess the relationship between perfectionism and distress among university professors. Unfortunately, this is a topic and population that has been largely ignored in the research literature. I am asking you to complete this anonymous questionnaire package to help me better understand the impact of perfectionistic demands on your life. I have completed the questionnaire package myself and it took between 15 and 20 minutes to finish. I know your time is valuable and I would greatly appreciate your participation in this anonymous study.

Sincerely yours,

P.S. For a more detailed account of this study please refer to the enclosed "Information Sheet."

APPENDIX B

Information Sheet about the Perfectionism and Distress Project

Principal Researcher: Joshua C. Dunn
124 Woodvale Road West
Edmonton, AB T6L 1P7
Phone: (780) 886-6540

Being a university professor can be an exacting vocation. The profession inherently requires competent performance across disparate tasks, some in highly demanding and competitive domains. Such demands can only be exacerbated for those who tend to be hard on themselves to begin with. Almost no literature exists to document the human cost of such pressures among university professors.

The main objective of this study is to better understand perfectionism and its relationship to distress among university professors. You are among faculty randomly selected to participate in this study. Your participation involves filling out a questionnaire package that will take approximately 15-20 minutes to complete as well as mailing the package in the enclosed self addressed, stamped envelope. Returning the questionnaire package you are consenting to participate in this study, and to not return the questionnaire package indicates that you do not consent to participate in this research. Your name will not be included in any manner in the data collection. Only the principal researcher, Joshua C. Dunn, will view the questionnaire responses. All questionnaire responses will be strictly confidential, and these responses will remain locked in the University of Alberta Education Clinic at all times.

This is a voluntary project, and while the findings of this research may be published, your identity will be kept confidential at all times. A summary of the main research findings can be obtained at the office of the supervising professor (Dr. William Whelton at 6-123G Education North) of the principal researcher after the study has been completed. This study has been reviewed and approved by the Research Ethics Board of the Faculties of Education and Extension at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the Research Ethics Board at (780) 492-3751.

There is a very small possibility that you may become newly aware of feelings of emotional distress as you are completing the questionnaires. If such feelings were to be acute or to persist, you are encouraged to seek consultation from a trained mental health professional or to visit the nearest hospital emergency department. The possible benefits this study may offer include increased self-knowledge, and an expansion of your awareness of your thoughts and feelings and how you have been coping with them.

APPENDIX C

Demographics Sheet

The following demographic questions are strictly voluntary, if you choose, you may complete the questions below.

1. **Please write your *age* in the space provided below:**

AGE: _____

2. **Please indicate your *gender* by checking either male or female.**

☐ MALE

☐ FEMALE

3. **Please indicate your current *status* from the following list of options by checking the one that applies to you:**

☐ SINGLE

☐ DIVORCED

☐ MARRIED

☐ COMMON-LAW or OTHER LONG-TERM RELATIONSHIP

4. **Please indicate your *ethnicity* by checking the one of the following options that best describes you:**

☐ CAUCASIAN

☐ ABORIGINAL

☐ BLACK/AFRICAN-AMERICAN

☐ MIDDLE EASTERN

☐ EAST INDIAN

☐ HISPANIC

☐ OTHER (please specify)_____

5. **How many *years* have you worked as a university professor?**

NUMBER OF YEARS: _____

APPENDIX D

Multidimensional Scale of Perceived Social Support (MSPSS)

We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement by circling the appropriate number using the following scale:

1 = Very strongly disagree
2 = Strongly disagree
3 = Mildly disagree
4 = Neutral
5 = Mildly agree
6 = Strongly agree
7 = Very strongly agree

1.	There is a special person who is around when I am in need.	1	2	3	4	5	6	7
2.	There is a special person with whom I can share joys and sorrows.	1	2	3	4	5	6	7
3.	My family really tries to help me.	1	2	3	4	5	6	7
4.	I get the emotional help and support I need from my family	1	2	3	4	5	6	7
5.	I have a special person who is a real source of comfort to me.	1	2	3	4	5	6	7
6.	My friends really try to help me.	1	2	3	4	5	6	7
7.	I can count on my friends when things go wrong.	1	2	3	4	5	6	7
8.	I can talk about my problems with my family.	1	2	3	4	5	6	7
9.	I have friends with whom I can share joys and sorrows.	1	2	3	4	5	6	7
10.	There is a special person in my life who cares about my feelings.	1	2	3	4	5	6	7
11.	My family is willing to help me make decisions.	1	2	3	4	5	6	7
12.	I can talk about my problems with my friends.	1	2	3	4	5	6	7

APPENDIX E

Frost Multidimensional Perfectionism Scale (FMPS)

Please circle the number that best corresponds to your agreement with each statement below. Use the following rating system:

1 = Strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly agree

		Strongly disagree				Strongly agree
1.	My parents set very high standards for me.	1	2	3	4	5
2.	Organization is very important to me.	1	2	3	4	5
3.	As a child, I was punished for doing things less than perfectly.	1	2	3	4	5
4.	If I do not set the highest standards for myself, I am likely to end up a second rate person.	1	2	3	4	5
5.	My parents never tried to understand my mistakes.	1	2	3	4	5
6.	It is important to me that I be thoroughly competent in everything I do.	1	2	3	4	5
7.	I am a neat person.	1	2	3	4	5
8.	I try to be an organized person.	1	2	3	4	5
9.	If I fail at work/school, I am a failure as a person.	1	2	3	4	5
10.	I should be upset if I make a mistake.	1	2	3	4	5
11.	My parents wanted me to be the best at everything.	1	2	3	4	5
12.	I set higher goals than most people.	1	2	3	4	5
13.	If someone does a task at work/school better than I, then I feel like I failed the whole task.	1	2	3	4	5
14.	If I fail partly, it is as bad as being a complete failure.	1	2	3	4	5
15.	Only outstanding performance is good enough in my family.	1	2	3	4	5
16.	I am very good at focusing my efforts on attaining a goal.	1	2	3	4	5

17.	Even when I do something very carefully, I often feel that it is not quite right.	1	2	3	4	5
18.	I hate being less than best at things.	1	2	3	4	5
19.	I have extremely high goals.	1	2	3	4	5
20.	My parents have expected excellence from me.	1	2	3	4	5
21.	People will probably think less of me if I make a mistake.	1	2	3	4	5
22.	I never felt like I could meet my parents' expectations.	1	2	3	4	5
23.	If I do not do as well as other people, it means I am an inferior human being.	1	2	3	4	5
24.	Other people seem to accept lower standards from themselves than I do.	1	2	3	4	5
25.	If I do not do well all the time, people will not respect me.	1	2	3	4	5
26.	My parents have always had higher expectations for my future than I have.	1	2	3	4	5
27.	I try to be a neat person.	1	2	3	4	5
28.	I usually have doubts about the simple everyday things I do.	1	2	3	4	5
29.	Neatness is very important to me.	1	2	3	4	5
30.	I expect higher performance in my daily tasks than most people.	1	2	3	4	5
31.	I am an organized person.	1	2	3	4	5
32.	I tend to get behind in my work because I repeat things over and over.	1	2	3	4	5
33.	It takes me a long time to do something "right."	1	2	3	4	5
34.	The fewer mistakes I make, the more people will like me.	1	2	3	4	5
35.	I never felt like I could meet my parents' standards.	1	2	3	4	5

APPENDIX F

COPE Scale

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what *you* generally do and feel, when *you* experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you *usually* do when you are under a lot of stress.

Please treat each item separately and remember that there are no right or wrong answers. Responses should indicate what *you* do rather than what "most people" do. Indicate your choice about each statement by circling the appropriate number using the following scale:

1 = "I usually don't do this at all"
2 = "I usually do this a little bit"
3 = "I usually do this a medium amount"
4 = "I usually do this a lot"

1.	I take additional action to try to get rid of the problem.	1	2	3	4
2.	I concentrate my efforts on doing something about it	1	2	3	4
3.	I do what has to be done, one step at a time.	1	2	3	4
4.	I take direct action to get around the problem.	1	2	3	4
5.	I try to come up with a strategy about what to do.	1	2	3	4
6.	I make a plan of action.	1	2	3	4
7.	I think hard about what steps to take.	1	2	3	4
8.	I think about how I might best handle the problem.	1	2	3	4
9.	I put aside other activities in order to concentrate on this.	1	2	3	4
10.	I focus on dealing with this problem, and if necessary let other things slide a little.	1	2	3	4
11.	I keep myself from getting distracted by other thoughts or activities.	1	2	3	4
12.	I try hard to prevent other things from interfering with my efforts at dealing with this.	1	2	3	4
13.	I refuse to believe that it has happened.	1	2	3	4
14.	I pretend that it hasn't really happened.	1	2	3	4
15.	I act as though it hasn't even happened.	1	2	3	4
16.	I say to myself "this isn't real."	1	2	3	4
17.	I give up the attempt to get what I want.	1	2	3	4
18.	I just give up trying to reach my goal.	1	2	3	4
19.	I admit to myself that I can't deal with it, and quit trying.	1	2	3	4
20.	I reduce the amount of effort I'm putting into solving the problem.	1	2	3	4
21.	I turn to work or other substitute activities to take my mind off things.	1	2	3	4
22.	I go to movies or watch TV, to think about it less.	1	2	3	4
23.	I daydream about things other than this.	1	2	3	4
24.	I sleep more than usual.	1	2	3	4

APPENDIX G

Hassles Scale

Directions: Hassles are irritants that can range from minor annoyances to fairly major pressures, problems, or difficulties. They can occur few or many times.

Listed in the center of the following pages are a number of ways in which a person can feel hassled. First, circle the hassles that have happened to you in the past month. Then look at the numbers on the right of the items you circled. Indicate by circling a 1, 2, or 3 how SEVERE each of the circled hassles has been for you in the past month. If a hassle did not occur in the last month do NOT circle it.

	HASSLES	SEVERITY 1. Somewhat severe 2. Moderately severe 3. Extremely severe		
1	Misplacing or losing things.	1	2	3
2	Troublesome neighbors.	1	2	3
3	Social obligations.	1	2	3
4	Troubling thoughts about your future.	1	2	3
5	Thoughts about death.	1	2	3
6	Health of a family member.	1	2	3
7	Concerns about owing money.	1	2	3
8	Cutting down on electricity, water, etc.	1	2	3
9	Too many responsibilities.	1	2	3
10	Planning meals.	1	2	3
11	Concerned about meaning of life.	1	2	3
12	Trouble relaxing.	1	2	3
13	Trouble making decisions.	1	2	3
14	Problems getting along with fellow workers.	1	2	3
15	Concerns about job security.	1	2	3
16	Too many interruptions.	1	2	3
17	Having to wait.	1	2	3
18	Being lonely.	1	2	3

19	Silly practical mistakes.	1	2	3
20	Inability to express yourself.	1	2	3
21	Physical appearance.	1	2	3
22	Fear of rejection.	1	2	3
23	Sexual problems other than those resulting from physical problems.	1	2	3
24	Concerns about health in general.	1	2	3
25	Filling out forms.	1	2	3
26	Declining physical abilities.	1	2	3
27	Concerns about bodily functions.	1	2	3
28	Rising prices of common goods.	1	2	3
29	Not getting enough rest.	1	2	3
30	Not getting enough sleep.	1	2	3
31	Too many things to do.	1	2	3
32	Too many meetings.	1	2	3
33	Television.	1	2	3
34	Not enough personal energy.	1	2	3
35	Regrets over past decisions.	1	2	3
36	Nightmares.	1	2	3
37	Concerns about getting ahead.	1	2	3
38	Difficulties with friends.	1	2	3
39	Not enough time for family.	1	2	3
40	Transportation problems.	1	2	3
41	Noise.	1	2	3
42	Traffic.	1	2	3

APPENDIX H

Sample Questions from the Symptom Assessment-45 Questionnaire

Strategic Advantage, Inc.

1 = Not at all 2 = A little bit 3 = Moderately 4 = Quite a bit 5 = Extremely

1. Feeling no interest in things.

2. Feeling afraid of open spaces or on the streets.

3. The idea that someone else can control your thoughts.

4. Feeling tense or keyed up.

5. Temper outburst that you could not control.

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APPENDIX I

Job Appraisal Survey

We are interested in how you feel about the following questions. Read each statement carefully. Indicate how you feel about the two statements below by circling the response that fits best for you.

1. Overall, how satisfied are you with being a university professor as a job?

   Very dissatisfied Dissatisfied Neutral Satisfied Very satisfied

2. How likely is it that you will still be a university professor in 10 years time?

   Very unlikely Unlikely Neutral Likely Very Likely

When answering the following question try to use your best estimate as you write your response.

3. How many days were you absent from your job last year? _____